national

# SAFETY NEWS



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**Meets all E.E.I. Specifications**

Checked and approved under Edison Electric Institute Schedule No. AP-1, 1954.

**Weighs less than 15 ounces**

Real comfort and balance that encourages full-time hat use and reduces job fatigue.

**Dielectrically tested at 15,000 volts**

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**Withstands 40 foot lb. impact**

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new wide-vision frame shape in flesh-color butyrate; spatula or half plastic-half cable temples

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wide vision lenses, spatula temples—in new half-frame design (demi-amber overlay on upper half of crystal butyrate frame)

**NOW—WILLSON DESIGN provides this *new concept* of style combined with protection—ideal for day-long wear!**

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**205 Washington Street, Reading, Pennsylvania**

national Vol. 72, No. 6

# SAFETY NEWS

Published monthly by National Safety Council

DECEMBER 1955

COVER DESIGN by Wally Kenneth.

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Statements and opinions advanced in signed articles are personal expressions of the authors, not necessarily those of the National Safety Council.

*33,700 copies of this issue were printed*

NATIONAL SAFETY NEWS is published monthly by National Safety Council. Copyright 1955 by National Safety Council. Printed in U.S.A. Entered as second class matter June 21, 1921, at the Post Office at Chicago, Illinois, under the act of March 3, 1879. Subscription rate: to members, $5.50 per year, single copies 55 cents; to non-members, $7.50 per year, single copies, 75 cents. Quantity prices for yearly subscriptions and single issue on request. Member Audit Bureau of Circulation: Indexed in Industrial Arts Index.

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# THE ACCIDENT BAROMETER

**Prepared by the Statistics and Research Division, National Safety Council**

ACCIDENTAL DEATHS in August numbered approximately 8,800, an increase of 9 per cent over 1954. There were increases in deaths from motor-vehicle, public non-motor-vehicle and work accidents. Fatalities from home accidents numbered about the same as last year.

The eight-month death total was 59,500, a negligible change from 59,400 in 1954. Increases in motor-vehicle, public non-motor-vehicle and work accident deaths were nearly offset by a sizable reduction in home accident fatalities.

## Motor-Vehicle Deaths

There were approximately 3,600 deaths from motor-vehicle accidents in August, an increase of 10 per cent over 1954, but no change from 1953.

Deaths during the eight months totalled 23,470, an increase of 5 per cent over last year. The death rate per 100,000,000 vehicle miles was 5.9, a reduction of 3 per cent from the 1954 comparable eight-month rate of 6.1.

Among the 47 states reporting for eight months, 13 had fewer deaths than last year, 1 had the same number and 33 had more deaths. Reporting cities with populations of more than 10,000 had an increase of 8 per cent for August and 1 per cent for the eight-month period.

Regional changes from 1954 in the eight-month death totals were:

| | |
|---|---|
| North Atlantic | +7% |
| South Atlantic | +9% |
| North Central | +3% |
| South Central | +5% |
| Mountain | −3% |
| Pacific | +7% |

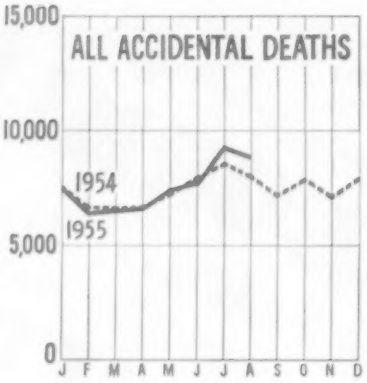
## Work Accidents

Deaths from work accidents in August totalled 1,300 or 100 more than last year. The total for eight months was 9,200, an increase of 1 per cent over 9,100 in 1954.

The August frequency rate per million man-hours in 18 sectional accident prevention contests conducted by the National Safety Council was 6.71, an increase of 15 per cent over last year. The August rate for plants in community council contests was 6.21, an increase of 8 per cent. The eight-month rate in sectional contests was 5.78, up 2 per cent while in community council contests it was 5.47, down 10 per cent.

## Public Deaths

Public non-motor-vehicle deaths in August numbered about 2,000 or 300 more than in 1954.



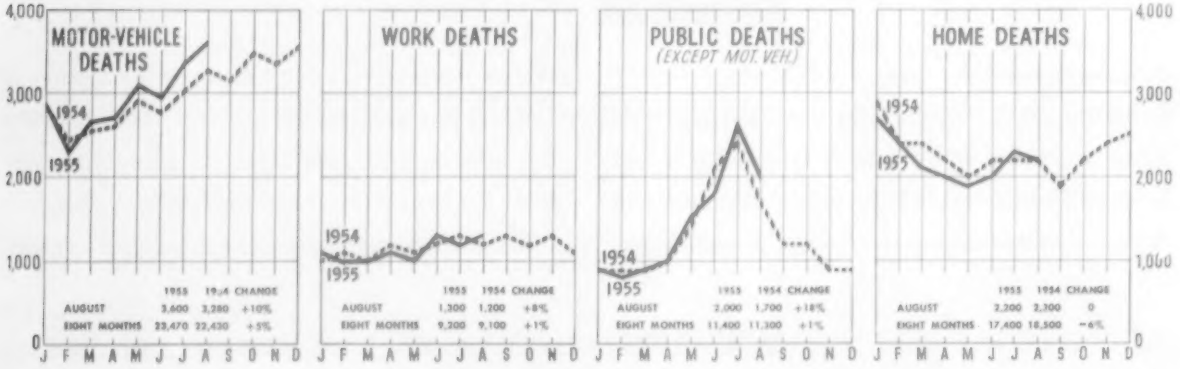

| | 1955 | 1954 | Change |
|---|---|---|---|
| August | 8,800 | 8,100 | +9% |
| Eight Months | 59,500 | 59,400 | 0 |

Deaths during the eight months totalled 11,400, an increase of 1 per cent over last year. There were increases in fatal burns, drownings and unclassified public accidents, and decreases in deaths from falls, firearms and transportation accidents. Increases were recorded for children under 15 years of age, no change for persons 45 to 64 years old, and small decreases in the other age groups.

## Home Deaths

Deaths from home accidents numbered approximately 2,200, no change from August, 1954.

The eight-month death total was 17,400, a reduction of 6 per cent from last year. Most of the decrease occurred in deaths from mechanical suffocation and poisonings but deaths from firearms accidents, burns and falls also were fewer. All age groups showed some reduction from 1954, with the greatest improvement recorded for children under 5 years of age.



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- Efficiency

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Vano Design "A" cooling interior of furnace, supplying fresh air through 10 feet of "Ventube" to provide safety and comfort during repair work.

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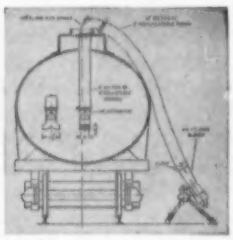
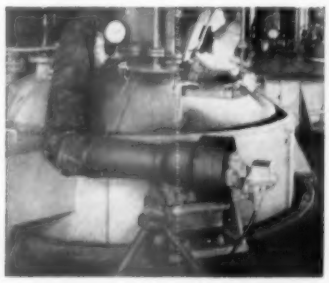
Vano Design "A" Ventilator plus a few accessories feeds large air volume into tank car, driving out fumes, stagnant or hot air for workers' safety and comfort.





Vano Design "A" supplying fresh air in Reactor Room of Synthetic Rubber Plant.

Vano Design "A" Ventilator supplying fresh air to men working in wing compartments, fuselages, etc.

Powered by a ½hp motor, and equipped with the exclusive Coppus axial-flow propeller-type fan, this general-purpose blower delivers 1500 CFM of fresh air. It supplies ventilation for tanks, tank cars, drums, vats, underground cable manholes, pipe galleries, airplane wing compartments and fuselages, and other confined places. Weighs only 103 lbs. Uses 8"-diameter flexible canvas tubing ("Ventube").

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Vano Design "C" equipped with 8" discharge tubing removing welding fumes.

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# THE SAFETY VALVE

*Nothing human is alien to me.*
—TERENCE

## Words and Music

EVERY YEAR, when the Advent Season rolls around, I have a fellow feeling for preachers who have to find new gems of thought on ageless themes. But on such occasions does it really matter whether their remarks are profound or merely conventional?

Looking back over quite a few Christmases, I can scarcely remember a sermon. But there are plenty of memories of past Christmases—of family gatherings, and the mystical atmosphere of midnight services—the subdued lights, the decorations, the music... Some experiences are easier felt than explained.

Music of the season runs all the way from *Jingle Bells* to such majestic masterworks as Handel's *Messiah* and Bach's *Christmas Oratorio*. As this is written, choirs and choral societies are warming up their vocal chords for their annual assault on these classics.

And if you know *The Messiah* only as performed by the choir of the First Methodist or Fourteenth Presbyterian Church, you don't really know it. It really takes a large chorus and orchestra to do it justice.

Not everybody can appreciate a whole evening of Handel or Bach but there are many carols and hymns that all can enjoy. In these less pretentious lyrics poet and composer have also joined to bring their gifts of devotion to the Christ Child.

Over the centuries the number of Christmas poems has been immense. Of these, perhaps a score have become immortal.

None has achieved a more enduring place than *Adeste Fideles*. In both English and Latin versions it is sung by the faithful everywhere.

*Silent Night*, of German origin, has been translated into 68 languages and is beloved wherever Christmas is observed. We feel instinctively that it was written on Christmas Eve. It was.

From England have come two favorites. Charles Wesley wrote 6,000 sacred songs of varying quality, among them *Hark the Herald Angels Sing*. But it was practically unknown until somebody adapted Mendelssohn's joyous tune to the words and its place was assured.

Isaac Watts contributed many gems to English hymnology, none more famous than *Joy to the World*. Like many another poem it waited many years for a worthy musical vehicle. It was provided by an American composer, Lowell Mason, whose setting was inspired by Handel.

Phillips Brooks preached many eloquent and scholarly sermons from his Philadelphia pulpit but who remembers them? His claim to immortality is assured by *O Little Town of Bethlehem*, which captures the mystic atmosphere of Christmas Eve and the Nativity so feelingly. And Lewis Redner, organist at Brooks' church, captured the spirit of the rector's words in an exquisite setting.

There are many other worthy numbers to be found in hymnals and paperbound books of carols which have survived years of community singing. What would Christmas be without them? By Christmas afternoon we'll be surfeited with them, just as we will be with turkey and dressing. But eleven months hence we'll be ready for more.

## In This Issue

IF HANNIBAL hadn't lost so many men by accident while crossing the Alps, the civilization of western Europe might have been Phoenician rather than Roman. Accidents as well as battle casualties have taken their toll of fighting men, and the problem has been intensified in the motorized forces of today as General Paul F. Yount, Army Chief of Transportation, points out in the leading article. And it was General Yount's reference to ancient Carthage that suggested the title which the editors took the liberty of substituting for the original. (Page 18)

* * *

The Transactions of a National Safety Congress fill quite a substantial volume and the photographic record fills a big album, yet even these do not give a complete report of the week's events. So it is understandable that the accounts given in the Council's magazines are inevitably sketchy. The Congress reporter's impressions of the Congress will be found on page 20 and a review of the Exposition on page 50. Excerpts from papers and addresses appear on page 10 and a list of sectional officers on page 32.

* * *

The initials "U-L" on an infinite variety of appliances is the buyer's assurance that the product has passed exacting tests and is as safe as can be expected in this imperfect world. Here is an account of what goes on at Underwriters' Laboratories for the protection of the public. (Page 24)

Carman Fish

# Ansul Dry Chemical Piped Systems Now U.L. Approved For Industry-wide Use

## For the first time, Automatic Dry Chemical fire protection for class B and C hazards

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Ansul's Dry Chemical Piped Systems provide instant, around-the-clock protection for such hazards as paint dip tanks, spray booths, generators, flammable liquid pumping stations, exhaust ducts—wherever there is a hard to reach or highly flammable stationary installation.

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### Call the Ansul Man!

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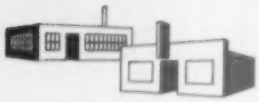
# SMALL BUSINESS and ASSOCIATIONS



**By A. M. Baltzer and Robert D. Currie**
*Small Business Program Staff, National Safety Council*

## Post Mortems

Now we can look back over the 43rd National Safety Congress after looking forward to it for so long. We took a good long look at *our* part, the Association Safety Roundtables, the Association Award Luncheon, and the Association Exhibits. We think they were a success—a big success.

Thirty-five association representatives and a good representation from local safety councils, insurance companies, and large companies—all of which are in an excellent position to help small business reduce accidents — took part in the roundtable sessions. They asked some questions; they answered some questions; they expressed their thoughts; they took back some ideas.

There were six roundtables, each covering a different phase of association activity to help reduce accidents in small business. Each table was assigned a discussion leader and recorder. Each leader and recorder was chosen because of his success with association safety. Reprints of the main areas of discussion at each table will be made available.

Our Association Award Luncheon was so popular this year we didn't have room for all who wanted to attend. Ninety persons witnessed the presentation of awards to 11 associations which did an outstanding job in promoting accident prevention in small business. As an added attraction, the top "Ten Safety Rules Contest" winners were presented with their prizes.

Six associations had their accident prevention activities, programs, posters, and other data on exhibit in the Hilton Hotel the entire week of the Congress. The associations that took advantage of this opportunity to publicize their safety work were *American Association of Oilwell Drilling Contractors, American Gas Association, Can Manufacturers Institute, Inc., Malleable Founders' Society, Pressed Metal Institute,* and *United States Brewers Foundation.*

We feel that our part in the last Congress did much that will prevent accidents in small firms. We don't know who said it, but we'll go along with this statement: "Whatever is done to prevent accidents, prevents accidents." We hope you do, too.

**Ivan F. LeGore (right), Safety Director, Portland Cement Association, receives congratulations and the Council's Association Award for outstanding achievement in accident prevention from David L. Arm, Manager, Industrial Department. Mr. LeGore is the new chairman of the Small Business and Associations Committee of the Industrial Conference.**

## Supervisors' Safety Correspondence Course

*The Industrial Association of Iowa,* in cooperation with the Extension Engineering Service of Iowa State College at Ames, has developed a supervisors' safety correspondence course. The course is designed for businesses in Iowa which do not have full time safety specialists — by and large the smaller firms. It also serves as a supplementary course for larger firms which wish to pass additional safety information to their supervisors.

The text material used in this course is Blake's *Industrial Safety* and the Iowa Workmen's Compensation Law. Enrollment is limited to 200 students. The cost of the course is $20 per student and covers text material, grading of examination papers, correspondence between college and students, and completion certificates.

*The Industrial Safety Association of Iowa* offers the help of safety specialists who personally visit various areas to assist individuals or groups with problems relating to understanding of the course and an evaluation of text material.

We think this will contribute much to the industrial safety movement among small firms in Iowa. And we hope others will base a similar safety project on the success of this one.

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## ...new space-saving SIGHT SAVER Cleaning Stations!

Yes — the new, better-than-ever *Sight Saver* Cleaning Stations are yours without charge when you buy genuine silicone-treated *Sight Saver* tissues. And *Sight Saver* dispensers assure thrifty use of tissues . . . they dispense only one at a time!

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- Save space — over-all size only 3½ x 8″
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**DIRTY glasses are dangerous and inefficient**

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The original Sight Saver Cleaning Stations are still available also.

Refill packets for *all* models (Cat. No. 65) .....each $1.45

# CONGRESS QUOTES

**Practical thoughts from sessions of the 43rd National Safety Congress**

### Start with the Boss

Pick on the boss. That's the phase of an industrial safety program that needs first emphasis. Selling management on safety is the important first and basic step.

I knew my company's program was well on the road to success when my boss admitted that even working in his own workshop at home, the first things he did were check the machine guard and put on his goggles.

If you can get that feeling or spirit through to the men on the machines and in the plant, you have it "made" as far as safety is concerned.

*—Gordon Mercer, Plant Manager, Algoma, Wis., Div., U.S. Plywood Corp. (Wood Products)*

### Looking Into Lame Backs

Pre-employment X-rays can be the most useful tool in reducing the number and severity of industrial back injuries. This was the outstanding result of a study conducted during the last five years in the mining area of Missouri, Kansas, and Oklahoma.

Causes of injury were listed in 15 categories. Lifting headed the list, causing 46.8. Falls accounted for 11.9, the next most important cause.

For a number of years most industrial surgeons have felt that certain pathological or congenital conditions seen in the bony and supporting structures of the back are contributing factors in the development of pain in the back and prolongation of this symptom.

The study confirmed this view, showing that 53.8 per cent of the patients were in the group where X-rays showed contributing findings. Patients with noncontributing findings constituted only 33.9 per cent of the total. Furthermore, the first group lost an average of 29.8 days of work per patient while those in the noncontributing group lost 12.5 days per patient.

We conclude that patients who had some type of contributing pathology in their spine previous to their alleged injury were much more susceptible to prolonged periods of disability and had a higher degree of permanent disability than those having negative or noncontributing findings.

Pre-employment X-rays can be used to place people in jobs where the hazards are not too great for their backs. Proper education in lifting and safety engineering helps to avoid conditions leading to falls and other back injuries.

*—M. A. Connell, M. D., Picher, Okla., Hospital. (Mining)*

### Don't Underestimate Guards

Adequate mechanical guards on industrial machinery can stop accidents despite many excuses to the contrary.

Many so-called reasons for not installing guards are actually excuses. One popular excuse is that most accidents are caused by human rather than machine failures.

An understanding of the basic differences between accident cause and accident source will aid greatly in overcoming this idea that most accidents are caused through human failures.

Machines are the source of 10 per cent of fatal injuries and 25 per cent of those that disable.

Safeguarding of equipment is positive accident prevention, in that it eliminates the chance of human failure.

*—Duncan MacDonald, Safety Engineer, Anaconda Copper Mining Co. (Fertilizer)*

### How About a New Model?

Sell safety like autos—with a new model every year.

Safety programs, like automobiles, need new features to maintain their appeal.

Our company's safety program got a big lift from a year-long campaign with the theme, "Hitch your wagon to a star."

Every program needs a little chrome for eye appeal.

*—E. R. Estus, Superintendent of Safety and Training, Cities Service Oil Co., Bartlesville, Okla. (Petroleum)*

### Foul-Smelling Hazard

Just about every high school chemistry student is familiar with the rotten-egg smell of hydrogen sulphide. He may not know that this gas is one of the hazards of oil drilling.

The driller working in areas which are proven hydrogen sulphide gas areas has some chance because he's forewarned on what to expect. The chief danger is in drilling wildcat locations and striking hydrogen sulphide in large concentrations.

The gas is toxic and forms explosive mixtures with air. It is readily detected because it gives off an offensive odor like rotten eggs. Detection apparatus and oxygen-breathing equipment are safety appliances recommended for areas where the gas may be present.

*—W. W. Duncan, Safety Director, Loffland Brothers Drilling Contractors, Tulsa, Okla. (Petroleum)*

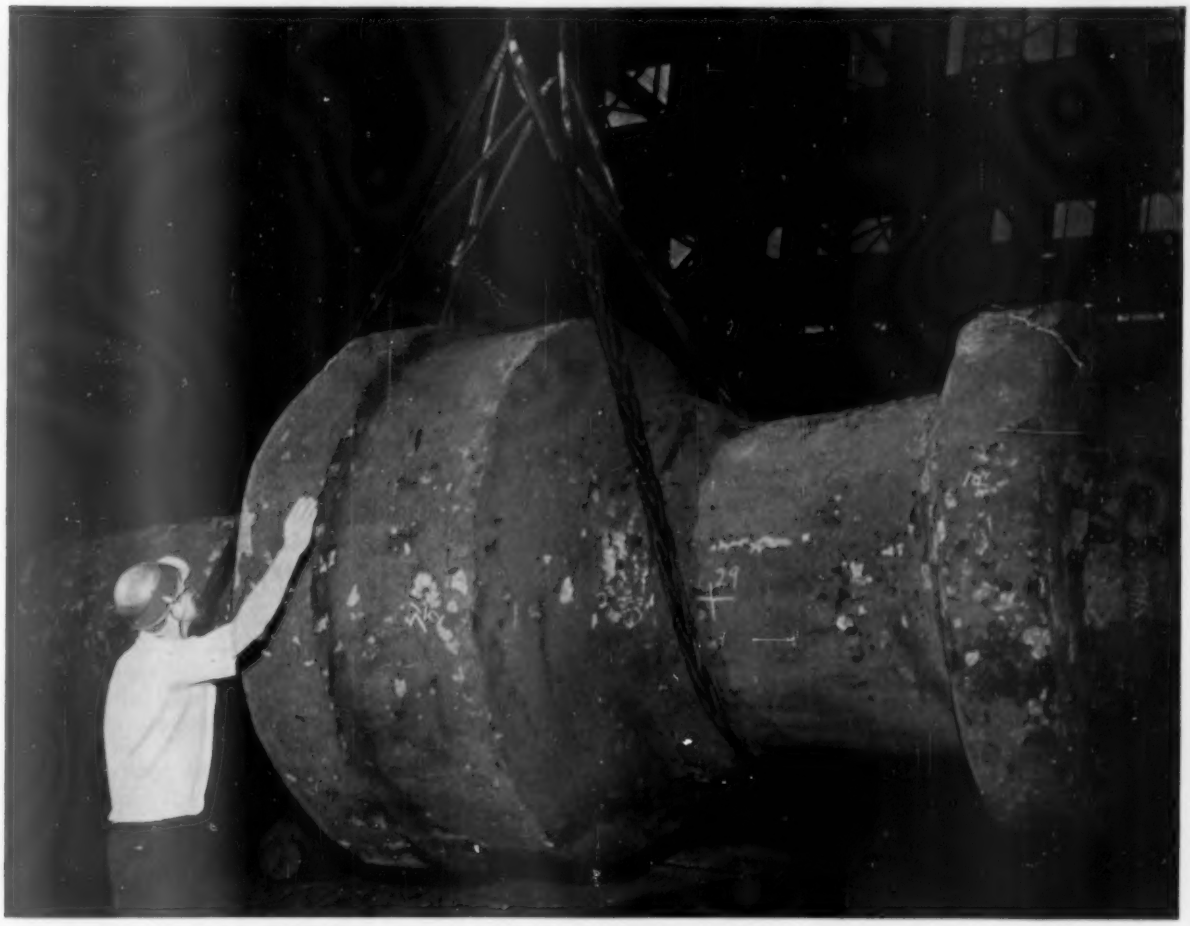
### The Desire Came First

"Ceiling zero" in aviation is bad. In accident prevention, however, "frequency zero" is excellent.

The Brammer Manufacturing Co. managed to achieve "frequency zero" after five years of intensive promotion.

In 1949 when the safety pro-

*—To page 74*



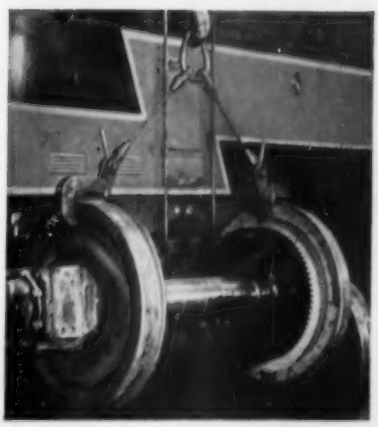
# SLINGS for the big lifts ...for the special lifts

That huge forging about to be hefted is really tremendous. It weighs nearly 190 tons. To handle such a load, big slings are required, and the ones shown are among the largest ever made by Bethlehem. Eight-part-braided with served loop ends, they combine high flexibility with very great strength.

The sling lifting the diesel wheels is called upon for relatively small loads. It is a two-leg bridle, each leg being equipped with a car-wheel hook. This is a rather unusual sling, one that is made for a highly specialized type of service.

Special or standard, you can always get the slings you need from Bethlehem. Even though yours is a really unorthodox requirement, we'll gladly take care of it. That goes, too, for the strictly conventional items—such as the regular braided and single-part slings, grommets, etc.

Bethlehem engineers can help you work out your handling problems. They'll come to your plant and render all possible assistance, without cost or obligation. Call them whenever you're considering new types of lifts . . . or heavier loads than your present variety of slings will accommodate.



BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. *Export Distributor:* Bethlehem Steel Export Corporation

**BETHLEHEM STEEL**

BETHLEHEM STEEL

# Wire from WASHINGTON

By HARRY N. ROSENFIELD

*Washington Counsel, National Safety Council*

SAFETY, in one form or another, was a key factor in the actions of various governmental and international agencies.

**Industrial Safety.** An International Labor Organization panel of eight specialists recommended a series of measures to promote occupational health and safety throughout the world. Among the specific recommendations were: the adoption of an international convention to prevent the sale, hire and use of certain types of machines not equipped with safety devices, the preparation by the ILO of an international encyclopedia on occupational health and safety, and the establishment of regional institutes on occupational health and safety.

A subcommittee of the Congressional Joint Committee on the Economic Report held hearings on the problems arising out of automation and the advanced technological forms of labor-saving devices. At the close of the hearings, the subcommittee chairman, Representative Wright Patman, said that he thought the hearings had shown, among other things, "that automation is making it safer for working people."

The Interstate Commerce Commission revised certain of its regulations, effective December 31, 1955, governing the transportation of explosives and other dangerous articles.

The United States Public Health Service announced that there was "increasing evidence that various types of air pollution may constitute a serious widespread challenge to human health." It made 10 grants, totaling more than $250,000, for experiments to ascertain how human beings are injured by different forms of air pollution in different concentrations.

**Highways.** The Secretary of Commerce stated that the administration was ready to accept pay-as-you-go financing as a substitute for its proposal for bond issues, or a combination of both forms of financing, if necessary to obtain Congressional enactment of a highway construction program.

The Supreme Court, after hearing oral arguments, decided that it had no jurisdiction to review a ruling of the California Supreme Court that it was not unconstitutional when a driver who was arrested for drunken driving was required, allegedly against his will, to submit to a blood test to determine his sobriety.

The Interstate Commerce Commission announced that it would propose new brake regulations designed to reduce runaway trailer-tractor accidents. Interstate Commerce Commissioner Richard F. Mitchell warned that interstate trucking carriers "must take positive steps to effect compliance with our regulations and to improve . . . their safety programs." In referring to several recent accidents, the Commissioner said: "Inadequate inspection and poor maintenance have been found to exist and other failures of carriers to comply with the provisions of the Motor Carrier Safety Regulations are evident."

Two government departments, the Department of Justice and the Food and Drug Administration, opened a drive to stamp out the illegal sale of stimulant drugs to truck drivers by cafes, service stations, truck stops, and drug stores. Highway accident reports and information furnished by safety directors of trucking firms and associations led to a year-long investigation by the Food and Drug Administration. The investigation caused the crackdown, which started with the issuance of warrants for 42 arrests in six states for selling amphetamines, commonly known as "lift pills" or "goof balls." The Food and Drug Commissioner said: "There is evidence that some truckers using the drugs have lost their own lives and have needlessly risked the lives of others. Use of these drugs by truck drivers is particularly dangerous."

**Aviation.** The Civil Aeronautics Administration's report on small-plane accidents spotlighted how proper technique and good judgment could have prevented most of the accidents it reported. It also announced that aviation safety was one of the major items of concern to the international trainees from the Latin American countries.

The Bureau of Safety Regulation of the Civil Aeronautics Board still has under consideration proposals to amend the Civil Air Regulations in connection with (1) the elimination of annual inspection of general aircraft and (2) the airworthiness regulations.

**Government.** After almost 30 years of guarding the safety of others in aviation, the Civil Aeronautics Administration appointed a Safety Coordinator to deal with the safety of its own personnel.

**Home Safety.** The Food and Drug Administration issued a "statement of interpretation" which requires manufacturers of aspirin and other salicylate drugs to place conspicuous warnings on their packages that such drugs should be kept out of the reach of children. This statement was issued on the basis of a study and conclusions of a Medical Advisory Panel, and "in the interest of protecting the public health." Six months was allowed for the modification of existing labels to effect compliance with the new requirements.

The Federal Trade Commission held hearings on proposed amendments of its regulations relating to the Flammable Fabrics Act.

Safety CAP has narrow brim at sides and back, visor in front. Weight 12-1/4 oz.

Safety HAT has full brim for greater all around protection. Weight 14 oz. Chinstrap is optional.

## Outside, they're FIBER GLASS

Compression molded of glass fibers and polyester resins, Jackson Safety Hats and Caps are made of the same miraculous substance that's sweeping the country in countless new applications. Combining lightness and resilience with toughness and strength, fiber glass provides the strongest protection per unit of weight. Strong, two-way ribbing on the crown, and heavy edges along the brim resist impact from all sides.

## —in your choice of COLORS

For indentification of workers by trade, Jackson offers Safety Hats and Caps in grey, white, yellow, orange, green, blue and brown. Other colors may be furnished on quantity orders.

## Inside, a Jackson PLUS VALUE

The headband of extruded plastic, far firmer than the usual headband materials, is durable, holds its shape, and gives better fit. It allows easy, yet positive individual fitting, is clearly marked off in hat sizes. A cork-lined sweatband adds comfort, is easy to replace.

Hammock straps of webbing give adjustable support on top of the head and provide the required safe distance between head and hat shell.

Headband and hammock straps button to the inside of the hat shell, leave ample room for all around ventilation.

## —tested for your protection

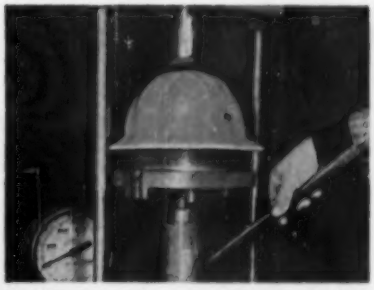
They exceed the requirements of Federal Specification GGG-H-142b when tested for *electrical resistance*, *impact*, *penetration*, *flammability*, and *water absorption*. Their *weight* is well below the specified limit. Two of these tests are described at the right.

**ACCESSORIES...**

*Chinstrap* of adjustable elastic webbing (left) and "Winterizers": *Colcap* to protect the skull, *Frigicap* to protect the ears as well (right).

**Impact Test** • Here, eight-pound ball, dropped five feet, measures the force of impact transmitted to the head of the wearer (here simulated by a wooden headform). Jackson Safety Hats withstand this test well within the specified limit.

**Penetration Test** • Pointed steel 16-oz. plumb bob, dropped 10 feet squarely onto center of hat crown, causes only slight penetration, well below the specified maximum. No damage is caused to headband and crown straps, nor to the wooden headform supporting the hat in this test.



**Slow Torture** • Used regularly for quality control and close scrutiny of every component is Jackson's own method of testing under hydraulic pressure. It proves Jackson Safety Hat superiority under *sustained loads*, hazards present in many occupations.

**JACKSON**
PRODUCTS, INC.
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**SAFETY-CAP-AND-HELMETS • SAFETY-CAP-AND-GOGGLES • SAFETY-HAT-AND-FACE-SHIELDS**

Sold through Safety and Welding Supply Dealers throughout the World

# FOR DISTINGUISHED SERVICE

*National Safety Council Awards for Outstanding Records*

THREE TYPES of awards are given by the National Safety Council to industrial units in recognition of outstanding performance in accident prevention:

1. **THE AWARD OF HONOR** is available to units whose records, though not perfect, meet rigorous standards of excellence. These standards take into account the previous experience of the unit as well as the experience of the industry in which it operates. A unit must qualify on both frequency rate and severity rate. The Award of Honor is available also to units which complete 3,000,000 man-hours without a disabling injury.

2. **THE AWARD OF MERIT** has similar, but less exacting requirements. Minimum number of injury-free man-hours needed to qualify is 1,000,000.

3. **THE CERTIFICATE OF COMMENDATION** is available only for injury-free records covering a period of one or more full calendar years and totaling 200,000 to 1,000,000 man-hours.

Details of eligibility requirements may be obtained by writing to the Statistics and Research Division, National Safety Council.

★ ★ ★ ★ ★

## AWARDS OF HONOR

**Bethlehem Steel Co.**, Williamsport Plant, Bethlehem, Pa.

**Holston Defense Corp.**, Kingsport, Tenn., Entire company.

**Perfect Circle Corp.**, Hagerstown (Ind.) Plant.

**Radio Corp. of America**, Two awards: Bloomington (Ind.) Plant; Harrison Plant, N. J.

**Western Electric Co., Inc.**, Burlington (N. C.) Works.

**Westinghouse Electric Co.**, Meter Division, Newark, N. J.

W. T. Hein (left), plant manager, Parts Division, Chrysler Corporation, Atlanta, receives the Award of Honor from Robert R. Snodgrass, Council vice-president.

## AWARDS OF MERIT

**Acme Visible Records,** Croset, Va., Entire company.

**Aluminum Co. of America,** Three awards: Bauxite Alumina Works, Bauxite, Ark.; Bridgeport (Conn.) Works; Smelting Division, Massena (N. Y.)

**American Can Co.,** Halethorpe Plant 14-A.

**Armco Steel Corp.,** Two awards: Butler (Pa.) Division; Hamilton Plant, Middletown, Ohio.

**Celanese Corp. of America,** Two awards: Celco Plant and Hopewell Plant, Charlotte, N. C.

**Chicago & Eastern Illinois Railroad,** System Maintenance of Equipment Department.

**Container Corp. of America,** Two awards: Los Angeles Plant; O. B. Andrews Co., Folding Carton Division.

**General Electric Co.,** Two awards: Memphis Lamp Plant; Tell City (Ind.) Tube Plant.

**General Foods Corp.,** Gaines Division, Kankakee, Ill.

**The B. F. Goodrich Co.,** Los Angeles Division.

**Gulf States Utilities Co.,** Two awards: Louisiana Station Employees; Neches Station Employees.

**International Harvester Co.,** Memphis Plant.

**The Mead Corp.,** Kingsport Division.

**National Lead Co. of Ohio,** Food Material Production Center, Cincinnati.

**The Nestle Co., Inc.,** Fulton, N. Y., Entire company.

**Radio Corp. of America,** Canonsburg (Pa.) Plant.

**Texas Eastman Co.,** Longview, Texas, Entire company.

**U. S. Steel Co.,** National Tube Division, Christy Park Works, Pittsburgh.

**Close your doors to fire before fire closes your doors**

## Use *Ampco* Safety Tools* on every hazardous job

It doesn't take much. Just one slip of an ordinary tool in a fire-prone location and you can be out of business — perhaps permanently. That's why you should insist that your employees carry only Ampco Safety Tools into hazardous areas for any type of work.

Factory Mutual Laboratories and other safety experts approve and recommend Ampco Tools for use in spray booths, paint lockers, grain elevators, gasoline storage areas, and all similar locations where a dangerous hot spark could mean a disaster.

More than 400 items in the Ampco line give you the world's largest selection of safety tools. Order Ampco today and get real dividends in fire protection.

AMPCO

*Sole producer of genuine Ampco Metal*

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West Coast Plant • Burbank, California
In Canada . . . it's Safety Supply Company, Toronto, Ontario

*Reg. U. S. Pat. Off.

T-18

## *How to choose Safety Tools*

For tools subject to impact and/or torque — specify Ampco Metal.

For tools that have cutting edges or gripping teeth—specify Ampco Beryllium Copper Tools.

For tools to be used in the vicinity of acetylene or similar gases, specify Ampco Monel† Tools.

†T. M. International Nickel Co.

'most Everyone Looks to HY-TEST

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  **SAFETY FEATURES**
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  **COMFORT FEATURES**
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national
SAFETY NEWS
DECEMBER 1955

# Toward a Millennium

*And the Lord said unto Cain, Where is Abel thy brother?*
*And he said, I know not. Am I my brother's keeper?*
GENESIS 4:9

THE THEME of the 43rd Safety Congress, "Be your brother's keeper—Stop accidents!" was inspired by one of the oldest admonitions given to man—one that is older even than the Ten Commandments.

As told in Genesis, the lesson is implied rather than presented as a command but that does not weaken it. It implants in the individual a question that makes him stop and realize his responsibility. It is something even more impelling than a command.

From its beginning the safety movement has been looking for slogans. "Safety First," widely used though never officially adopted, had its good points. It was brief, easy to remember, and it rolled glibly off the tongue. Unfortunately, too many people took it literally and all accident prevention acquired by implication the taint of selfishness and cowardice.

Within the past few years "The Life You Save May Be Your Own" has caught the public fancy. Morally, there is nothing wrong with it. Certainly, preserving one's life is a duty to society under normal circumstances. But as a safety credo, it is far from adequate. It misses some of the overtones of the safety movement.

The verse quoted has supplied the text for many a safety homily—so often, in fact, that it has come to be classed as a tiresome cliché. But how would we ever get along without clichés?

This sense of responsibility for others is the cement that holds our civilized society together. Without it, all cooperative effort would collapse. Progress would stop.

Cain's question, directed inward, would lead the employer to check working conditions in his establishment. It would make the motorist watch his driving. It would result in everybody taking a more active part in safeguarding the community, and consequently the nation.

This constructive soul searching is quite in keeping with the spirit of the Christmas season. Practiced widely it would help in bringing about a near millennium.

Getting men and supplies to the firing line in Korea caused many accidental casualties. In peacetime, the private car at the base is the No. 1 accident problem. (Official U. S. Army photo)

# The Army's Truceless War

By MAJ. GEN. PAUL F. YOUNT

**When combat ceases, battle casualties stop. But accidents continue to deplete the ranks of our armed forces**

TRANSPORTATION accidents have figured prominently in the destiny of nations. They have helped to decide the outcome of batles. They have depleted armies.

Two centuries before Christ (218 BC) in his war against Rome, Hannibal started over the Alps with an army of 46,000. In 15 days on the steep and treacherous mountain trails he lost 20,000 troops—accident victims! Nearly half his army was lost before he had opportunity to engage the Roman Legions. The outcome of his campaign might well have been different had it not been for those accidents.

Forty-three years ago the First National Safety Congress declared war on accidents. The Congress of the United States has since declared two major wars and endorsed the resistance in Korea. The military campaigns are concluded. But the campaign against accidents continues.

Our casualties during nearly four years of conflict in World War II totalled more than one million, including those dead, wounded and injured. This total includes 33,300 servicemen who died in accidents. In addition there were several times that number injured.

By comparison, motor-vehicle accident injuries last year alone totalled 1,250,000 in this country.

During World War II the U. S. Army, for the first time in its history, reported more deaths due to accidents than to disease. Every fifth death was related to nonbattle injuries and every twelfth to disease.

In 1952 during the Korean conflict 10 soldiers died from motor-vehicle accidents for every soldier dying as the consequence of an infective or parasitic disease. Only combat took more lives than motor-vehicle accidents in 1952, and even the perspective of battle deaths does not dwarf their deadly effect. For every 10 deaths

**● You can help the Army's safety record—by promoting driver training of youths and by example at home**

from combat there were four from motor-vehicle accidents.

When combat ceases battle casualties stop. However, accidents continue to deplete our ranks like a fifth column in our midst.

We have in the Army a degree of historical distinction in connection with accidents. For example, in 1908 Lt. Thomas E. Selfridge of the Army became the first to die in a fatal air crash. Orville Wright was badly injured in that same accident when the plane hit a bracing wire. I regret to state that planes are still hitting bracing wires.

The Army now regularly employs aircraft and helicopters to transport personnel and equipment. Experience from earlier accidents is making this a safer mode of transportation.

Last year about 80 per cent of the accidental fatalities to military personnel in the United States were incident to some phase of transportation, and over 65 per cent involved the soldier in a privately-owned vehicle. This is 17 times the number that died in non-tactical Army vehicles! From an accident standpoint, the motor vehicle is our principal accident problem.

The problem of transportation accidents is not peculiar to the military services. Forty-five per cent of all accidental deaths, according to the National Office of Vital Statistics, involve some phase of transportation.

Transportation has become a complex and competitive business. Losses resulting from accidents have become important. Your concern may be economic. Our concern includes their effect on efficiency and preparedness. Dead or disabled men do not win wars nor help maintain the peace. Accidents which delay transportation interfere with accomplishment of any mission. Aside from the heartache and tragedy, we simply cannot afford accidents in peace or in war.

The complexity of transportation today broadens the front on which the war against accidents must be fought. It is not limited to major means of movement like rail, airway, highway and water. It is expanded to include packing, crating, warehousing, materials handling and the features which feed to, and contribute to the design, capacity and movement by the major operational modes.

The Army Safety Program embraces all operations, activities and personnel. It is administered by the Assistant Chief of Staff, Personnel. Each commander at every echelon is responsible for the safety program for his unit. Staff and technical direction of the safety effort is usually discharged by a limited number of safety engineers at installations and higher headquarters. This insures continuity of the program.

My office provides transportation services Army wide, including technical advice and recommendations to all elements of the Army on matters pertaining to transportation — including safety. We prescribe basic policy for safe practices and safe physical standards on transportation matters including motor vehicle, aircraft, harbor craft, rail equipment and Terminal Commands.

Our mission is to move persons and things, and provide transportation services for the Army. To accomplish this the Army operates helicopters and railroads, loads and unloads vessels, employs amphibious craft and drives more than one and one half billion miles annually with Army motor vehicles—surely the world's largest fleet operation. In particular, the accident record of this operation deserves mention.

MAJ. GEN. PAUL F. YOUNT is Chief of Transportation, U. S. Army. This article has been adapted from an address before the Annual Meeting of the 43rd National Safety Congress, October 17, 1955.

Between 1946 and 1954 the accident rate for Army motor vehicals in U. S. was gradually reduced from 2.6 to 1.4 per 100,000 miles of operation in this country. Our accident rate has remained consistently below that of those major fleets in the United States reporting to the National Safety Council because of their interest in the safe operation of their vehicles. Our accident rate of 1.4 for 1954 compares favorably with 1.83, the three-year rate (1951-54) for all types of vehicles reported to the National Safety Council.

This means that during 1954 Army vehicles average 72,000 miles between accidents compared with 38,500 miles in 1946.

These improvements were made despite large personnel turnovers, teenage drivers, operating over rough roads and cross country terrain, and vehicle design which may have compromised some safety for tactical needs, such as high centers of gravity to afford clearance.

The National Safety Council has recognized our success with 10 Awards of Honor during this 12 year period, based on continuous improvements.

### Army vs Industry

Army progress in accident prevention is evident by comparison with the nation as a whole.

Data available from the National Safety Council and the U. S. Department of Labor indicate that one of each 14 workers in this nation was accidentally in-

*—To page 78*

See anybody you know here? The registration desk at the Conrad Hilton was a busy spot during the week. Registration desks were also maintained at the Congress, Morrison and La Salle hotels.

## *The World Joins Us in the*

# 43rd National Safety Congress

SINCE the First National Safety Congress was held in 1912, the United States has been involved in two World Wars and military operations in Korea. The military campaigns are concluded but the campaign against accidents continues without ceasing.

And no private employer is more deeply committed to this fight against accidents than the Armed Forces of the United States. Maj. Gen. Paul F. Yount, the Army's Chief of Transportation, reminded delegates to the 43rd National Safety Congress at the Annual Meeting. General Yount's address is printed on page 18 of this issue.

For 43 years the National Safety Congress has been an annual event where the forces of safety could restock their ammunition and get a week of intensive training to continue the campaign against accidents.

National Safety Council headquarters has become a port of call for safety men from many countries and some of them time their visits for the Congress. This year, in addition to a large delegation from Canada, there was a group from West Germany and other delegates from Central and South America. Messages were received from other countries which are keenly interested in safety activities in the U. S. A.

With President Dearborn's thoughtful message on the principles and purposes of safety and his reminder of the Scriptural injunction, "Be Your Brother's Keeper," as the keynote of the Congress, the week of activity got under way.

Between Monday morning and Friday noon 170 scheduled meetings were held in the Conrad Hilton, Congress, Blackstone, LaSalle and Morrison hotels, which just about taxed their combined capacity. In addition to these sessions there were numerous national and sectional committee meetings and conferences of various groups not listed in the program. All told the number of meetings concerned with safety was well over 200.

The National Safety Congress was not the only convention held

in Chicago during the week although it eclipsed them all in size, scope, and importance. Chicago is host to at least one convention nearly every week but a safety congress has never had such competition as in 1933 when the American Legion had its annual convention in Chicago and the Century of Progress world's fair attracted thousands of other visitors to the city. Congress attendance, still affected by the depression, was little more than a third of this year's.

* * *

The weather: A little of both kinds. The Old Farmer's Almanac was slightly off in its prediction: for both the beginning and the end of the week: ". . . these beautiful days. Storm and frost—all is lost."

Arthur Secord again packed them in the Grand Ballroom for the Early Morning Sessions.

Left: President Ned H. Dearborn presents Elizabeth Evans with a wrist watch in appreciation of her stirring patriotic message, "I Speak for Democracy," at the Annual Meeting.

Gov. Arthur B. Langlie of Washington tells the Banquet audience of his states successful drive on highway accidents.

Left: Committees of the Industrial Conference held meetings Sunday morning in preparation for the general meeting.

Left: The Council's exhibit of publications and services in the exhibit hall lobby.

Below: "When presented as a social and moral cause instead of as a matter of personal expediency, safety may expect the cooperation of countless forces that have been apathetic in the past." President Dearborn interprets the "Six Be's" at the Annual Meeting.

Left: Information on a wide variety of subjects was available from the Council library.

**NSC Executive Changes**

Important changes were made in the Council's organization at the first meeting of the current Board of Directors on Tuesday morning.

The Board voted to make the office of President a salaried position with Ned H. Dearborn continuing in that office. The Board also voted a change in the by-laws adding to the duties of president the secretaryship of the Trustees and liaison between the Trustees and the Board of Directors, responsibilities formerly assigned to the executive vice-president.

Gen. George C. Stewart was elected executive vice-president, a position designated in the Constitution as the chief executive officer of the Council. He will continue to carry the responsibilities of general manager as well as those of his new position.

Harry Read, executive assistant to the secretary-treasurer, Congress of Industrial Organizations, was elected to the newly-created position of Vice-President for Labor. The new office was established by the Board upon the recommendation of a special committee, which, in its report, characterized labor organizations as "important element in American life that exert a far-reaching influence on the thought and action of a very large segment of the population."

The influence of labor organizations, the report continued, will be "not only among their members but more importantly, in the use of their available means of contact and communications for creating public support of safety and consumer demand for materials and services of the Council among people generally."

Board action also provides for the establishment of two new Conferences—for Labor and for Women's Activities.

**Early Morning Sessions**

One delegate, a veteran of many Congresses, remarked that over the years no feature of the Congress had been more enjoyable and profitable to him than the Early Morning Sessions. Certainly, no sessions have drawn larger crowds. Usually there has been standing room only in the Grand Ballroom of the Conrad Hilton which seats more than 2,000 persons.

This year Arthur Secord, director of community service and professor of speech at Brooklyn College, conducted the series on the general theme "Communication and Safety." Those who got down to the Grand Ballroom at 8:30 and sat through the four 45-minute meetings came away with a clearer understanding of many problems: Getting ideas across more accurately, correcting without arousing resentment, handling grievances effectively, keeping safety meetings from becoming siestas, making inspections more than sight-seeing trips, and many other problems involving human relationships.

* * *

The Federal Government, the country's largest employer, was well represented in practically every phase of the Congress by both civilian and military personnel. The Tenth Annual Federal Safety Conference, sponsored by the Federal Safety Council, held two sessions and other conferences were held by the Air Force, Army, and Navy. Representatives of Federal Government agencies also took part in the programs of many subject and sectional meetings.

**Subject Sessions**

With a schedule planned to meet the expressed interests of industrial safety men, the American Society of Safety Engineers sponsored a series of 14 subject sessions. Topics covered at these meetings were: Accident Control — Administration and Costs; Falls; Atomic Energy in Industry; Effective Reporting to Keep Management Informed; Handling Industrial Wastes; Illumination; Off-the-Job Safety; Office Accidents; "Safety Is a Way of Life;" Training — for Employees, Supervisors, and Safety Men; "Z16.1"— an exposition of the New ASA Standard Method of Recording and Measuring Work Accident Experience.

Falls, one of industry's most perplexing accident problems, occupied the program of one of the subject sessions.

Gen. George C. Stewart, executive vice-president of the Council, addresses the Annual Meeting.

**A State's Experience**

Firm and impartial enforcement of traffic laws, contrary to widespread opinion, is not political suicide for a state administration. In the State of Washington it won public support and a rebirth of driver responsibility, Governor Arthur B. Langlie told the Banquet audience.

The campaign for increased traffic safety, Governor Langlie said, was preceded by a ten-day period of intensive public education in which every available medium of communication was used. On the eleventh day the drive was launched, using a wide variety of devices to catch highway killers—radar, helicopters, spotter planes, emphasis patrols, unmarked cars and drunkometers. Meetings were held with judges and other enforcement officials so that they came to realize the importance of backing the police. The "point system" was tightened up so that the record of every driver shows the nature of his violations, with so many points for each. Fifteen points means suspension of his license.

The results: For the 22-month period, November 1953 to August 1955, the State showed a reduction of 18.6 per cent in traffic fatalities as compared with a 3½ per cent reduction for the nation as a whole.

Her autograph is treasured by millions. The Hon. Ivy Baker Priest, Treasurer of the United States, speaks at the Women's Reception.

View of Underwriters' Laboratories new laboratories at Northbrook, Ill. In the foreground are oil burner test bays and office. In the small building at the rear is the burglar protection laboratory. In the large building are fire test rooms for extinguishers and automatic sprinklers.

# Testing for Public Safety

By NORMAN H. DAVIS, Jr.

**For more than 60 years the "Apostles of Discontent," in cooperation with industry, have been testing products and setting standards to make life less hazardous for all of us**

IT APPEARS that industry is being encouraged to decentralize. It seems that this movement is taking place for one or all of the reasons: (1) to escape off-shore bombardment; (2) to escape aerial bombardment of congested metropolitan areas; and (3) as a possible solution of personnel problems. The new depreciation tax laws seem designed as an aid to this movement.

Selection and establishment of Underwriters' Laboratories Pacific Coast operating center at Santa Clara, Calif., and expansion of its Middle West facilities to include a new laboratory at Northbrook, Ill., were influenced by these reasons as well as the aim to equip ourselves for continuity of service to industry in event any of our other three testing stations is obliterated.

We are past the midpoint of a century. From the fire protection engineer's experiences through these 55 years, there has perhaps been no period in history in which events and developments have so generally required the application of the talents of such a specialist. The demonstrated importance of fire as a weapon of war and of fire protection as an economic measure have enhanced the position of this specialist professionally.

Before the turn of the century, fire underwriters, the infant electrical and some other industries, recognized the need of safety standards for devices and materials. It is apparent many saw founder Merrill's vision of an independent, unbiased body vested with the responsibility of development of safety standards, judgment of products under these standards, and some agency to ascertain correctness of installations.

Underwriters' Laboratories, Inc. and the electrical and building inspectors as well as fire departments appear to be the crystallization of that thinking. If matters had not taken this, or some similar course, little would be left to the imagination as to what the multiplicity of state and municipal requirements would have done to the inventories of the manufacturers, as well as to consumer costs. Under such con-

NORMAN H. DAVIS, JR. is an Executive Engineer for Underwriters' Laboratories, Inc., Chicago.

ditions, mass production and distribution would probably have been impossible.

In collaboration with industry, the inspectors, and others, the Laboratories has functioned as a standardizing-testing body for more than 60 years. During those years, industry has progressed from the acetylene lamp to the fluorescent, from the open-knife switch to the power-operated gear, from the pail-in-tanks and soda-acid extinguisher to the $CO_2$ and powder extinguishers and foam-generating systems, from rubber-insulated conductors and cables to those insulated with plastics, from the Morse relay and sounder to the radio and television, and from the rule-of-thumb judgment of materials and finishes to a reasonably accurate measurement of performance under fire exposure.

Expansion of the "Lists of Inspected Appliances," together with the requests for technical assistance from the public, industries, regulatory authorities, and sponsors, continue to register a moderate annual growth of the enterprise. The last nine years have brought much into our orbit for judgment and report—products for the better and safer life for everyone. By departments, some of them are:

BURGLARY PROTECTION DEPARTMENT:

Inertia-type vibration detector for supplementary protection against attack on walls, ceilings, and windows.

Electrical testing laboratory at Santa Clara.

Invisible radiation intrusion alarm systems.

Methods of blanketing protected spaces with ultrasonic radiation to signal movement within premises.

CASUALTY AND AUTOMOTIVE DEPARTMENT:

Automatic ice-cube-making domestic refrigerator without conventional trays.

Heat pump for extracting earth heat for residential heating designed for operation by a reverse-cycle refrigerating system.

CHEMICAL DEPARTMENT:

Monitoring device for effecting gamma radiations from radioactive isotopes for use in atmosphere of flammable gases or vapors.

Portable survey instrument for detecting alpha, beta, and gamma radiations where potential fire and explosion hazards from flammable gases and vapors, as well as the hazards from nuclear radiation, exist.

Silicone-insulated motors for use in hazardous locations.

ELECTRICAL DEPARTMENT:

Color television receiver.

Electronically-operated internal

—*To page 108*

Testing oil-fired furnaces at the Santa Clara laboratory.

Attacking gasoline fire in tub with dry chemical extinguisher.

*(Fiction)*

**With the help of a little "cooperation" in the shop a hazard is dramatized enough to get quick action**

# The Put-Up Job

**By BILL ANDREWS**

*December 23, 1955*

AMONG THE DOZENS of Christmas cards that litter my desk this afternoon is a modest one that was probably bought in a dime store. The signature is written in pencil and the envelope that brought it is smudged slightly—smudged with a faintly dirty thumb print.

Mike can be excused a bit of dirt on his thumb. He's a power-press maintenance man, and he is in frequent, intimate contact with grease and oil.

I met Mike for the first time when I'd been at Exsteel only a month or so. He was making some minor repairs on a press when I walked by and noticed a red tag hanging on the switch. It was half crumpled, and I reached up to smooth it out to read it.

Mike came out from under the press with a bellow. "Whatta the blank blank do you think you're doin,' you dumb so and so?" he shouted. "You wanta get me killed? Ain't you seen an 'out of service' tag before?"

By that time, I could read the tag. It was very emphatic in wording—now that I'd smoothed it out and studied it. It read, "Don't throw this switch! Maintenance man working. Under no circumstances start this machine until tag is removed."

By the time I had half-placated Mike and made him understand that I hadn't planned to try to punch any pump parts out of his anatomy, I found my own curiosity aroused.

"Is this your method of protecting yourself on all repair work?" I asked.

He shook his head. "Naw, we use different ways. Some presses I can block out. Sometimes we steal a fuse and really protect ourselves. Sometimes all we can do is tag the damn' press, and then we gotta work with one eye on the switch alla time. Like now, like you did, some jerk is always curious like when he sees a 'Wet paint' sign. Onest I didn't watch an' a guy—a jerk of a subforeman, he was—kicked the switch trying to look at the tag, and I just missed losin' a whole hand. Whatsa matter with people, they always gotta be nosyin' around causin' trouble?"

I asked him if there were any presses with controls that could be locked out. He had never heard of any such device. "'Course," he said, "we use our heads. If I gotta be in a real bad spot on a big press, I get a kid to stand by the switch and keep people away."

I was beginning to sweat a little, and I said goodby to Mike and took off on a fast survey of the plant. I found only three machines out of several score that had devices that could be padlocked. One of these was in the heavy forging department, and the maintenance men did carry padlocks. But the switch had a place for only a single lock, and found that it was common practice for the first man to work on it to put his padlock on it. I asked what would happen if he finished his work while others were still on the job.

"Oh," I was told, "he's supposed to check the others before he takes his padlock off."

"And what happens if the second man is out to the john when the first guy finishes?" I asked. I got a shrug that implied that, after all, the men were very careful and would check before starting work again.

But if that was bad, the other two really started the sweat on my brow! I found one locking device "secured" by a loop of string. And the other, I was told, was "locked" out by inserting a spare screwdriver in the holes.

I put my assistant on a fast job of working out the mechanical details and operating rules governing the locking out of machines during maintenance and repair work. Without waiting for the completion of his work, I went to our general superintendent for authority to go ahead. He questioned the necessity of the expenditure of money and time involved. He even sent out for a copy of the red warning tag, and, with a bright, new copy of it on his desk, he said, "This ought to be adequate warning."

I took him out in the shop and found Mike working on a press,

his battered tag, all but illegible, hanging from the control switch. There was a good deal of traffic in the aisleway, and Mike kept one eye on the passersby as he worked.

I asked the super, "Would you want to be working with your hands among the gears with all those people going by?"

The super said, "Well, all our people know those tags. The only reason you reached for it that time was that you were new in the shop."

I asked, "What's our turnover rate?"

The super blinked, then whistled. He did a little fast calculation, and said, "Assuming turnover in this department's typical, which it probably is, at least eight new people have passed this switch since we've been here. No, I don't think I want to work on that machine with no more protection than a tag that's hard to read. Okay, get going on the program." He turned to leave, then stopped.

"How long will it take to install the padlock system?" he asked. I told him, and he said, "All right, if you can't do better. Meantime, I don't want any maintenance work done under no more protection than a tag. If a man can't immobilize the machine mechanically or electrically, we'll have to put a helper on watch. I'll get out the memo right now." He started to leave, then stopped again, and went behind the machine. "You," he said to Mike, "get out of there and don't go to work again until you get somebody to watch that switch. You want to lose a hand?"

"Gee, boss, that's a good idea," said Mike. He started making a bluff of picking up his tools. This time the super did leave. Mike promptly spread out his tools again. Then he stopped and looked up at me with a grin. "I did what you said," he whispered, and very conspiratorially he drew out of his pocket the fuse he'd removed from the machine before starting to work. He also took out a clean, new, perfectly readable copy of the "out of service" tag, and replaced the battered one with it. Then he went back to work, whistling a happy tune.

As I read his Christmas card today, with its scrawled signature below the banal, store-bought sentiment, I wonder if Mike wrote with the knowledge that our little staged scene for the super may have been the event that made the difference between his being able to write his own name this Christmas or having his wife do it for him because his hands were mangled.

## German Trade Leaders Visit NSC

THE SIZE and complexity of American supermarkets, the huge number of new, shiny automobiles on Chicago's Michigan Boulevard, and the amazing spectacle of a New York discount house are among the impressions that will be carried back to Germany by seven visiting trade association officials from West Berlin who spent half a day in NSC headquarters last month.

Here to study the functions, organization, and fund-raising and membership-recruiting methods of American associations, the German trade leaders spent six weeks touring the country under the sponsorship of the International Cooperation Administration.

At Council headquarters they heard talks by David L. Arm, manager, Industrial Department; Roy Benson, assistant manager, Industrial Department; A. M. Baltzer, director, Small Business and Associations Program, and Jasper B. Johnson, executive secretary, American Society of Safety Engineers.

They learned of the safety activities of trade and professional associations on the local, county, and state levels; why associations get into safety work; how they benefit from accident prevention, and how the National Safety Council assists them.

In Chicago they also visited the American Institute of Baking and, in six other American cities, such organizations as the National Association of Manufacturers, the National Industrial Conference Board, the American Management Association, and Dun & Bradstreet.

One of their most vivid impressions of American industry was the freedom of exchange of information between competitors. In Germany, they pointed out, most industrial information is considered business secrets, to be closely guarded from competitors.

Impressive, too, to the West Berliners, none of whom had visited the United States before, was the absence of government subsidies and restrictions in trade association activities. In their country many such organizations receive income from the government and carry out functions which in America they found to be strictly governmental.

# When Dust Explodes

**Under favorable conditions many types of dusts will ignite with great violence. Measures for releasing the pressure of explosions should supplement the precautions taken for their prevention**

By HYLTON R. BROWN

IN INDUSTRIES where dust-explosion hazards exist emphasis is usually placed on explosion prevention instead of the adoption of safeguards designed to provide protection against explosion damage. This practice is commendable, but in many processes it is not always possible to control completely all conditions that may initiate or contribute to an explosion. In such instances it is well to be familiar with the characteristics of different types of explosions, their behavior and the precautions that can be taken to prevent the building up of destructive pressure during an explosion.

For some time, attention has been given to venting or the development of means of releasing explosion pressure from equipment or buildings, and experience indicates that in certain types of explosions this method can be quite effective. Vents can be used to limit pressures developed by explosions of dusts, vapors, or gases, but they are usually most effective where the rate of pressure rise is relatively low. Ignitions of combustible dusts are generally in this class.

Recent tables indicate that, in the United States, the dust-explosion hazard exists in more than 30,000 industrial plants. A tabulation of all the losses attributable to dust explosions in factories in this country since 1860 shows that more than 600 lives have been lost and approximately $90,000,000 worth of property has been destroyed. With few exceptions, any dust that will burn or oxidize readily and is fine enough and dry enough to form a cloud will explode if the concentration is within certain limits and a source of ignition hot enough to ignite it is present.

Explosive dusts may be classified into three groups: (1) carbonaceous, (2) plastics, and (3) metallic. The first two groups probably represent the major interest of the chemical industry in dust-explosion prevention and protection. A recent estimate indicates that the industry develops 10,000 new chemicals annually and a large percentage of those produced or used in powder form, particularly in the plastics field, have been found in laboratory tests to be capable of forming explosive dust and air mixtures.

In view of the divergent interests in the chemical industry it may be well to consider in this discussion four phases:

1. Chemical substances or compounds that may form explosive dust and air mixtures.

2. Chemical reactions in explosions of dust.

3. Chemical means of preventing explosions or reducing the hazard.

4. Venting requirements to prevent or limit explosion damage.

## Explosive Mixtures

Whenever a new product is developed, the manufacturer is interested in its behavior under different conditions. If the product is a finely divided powder or if dust is produced in the manufacturing process some ef-

HYLTON R. BROWN is Health and Safety Engineer, Bureau of Mines, Washington, D. C. This article is adapted from a paper presented at the 43rd National Safety Congress in Chicago, October 17-21, 1955.

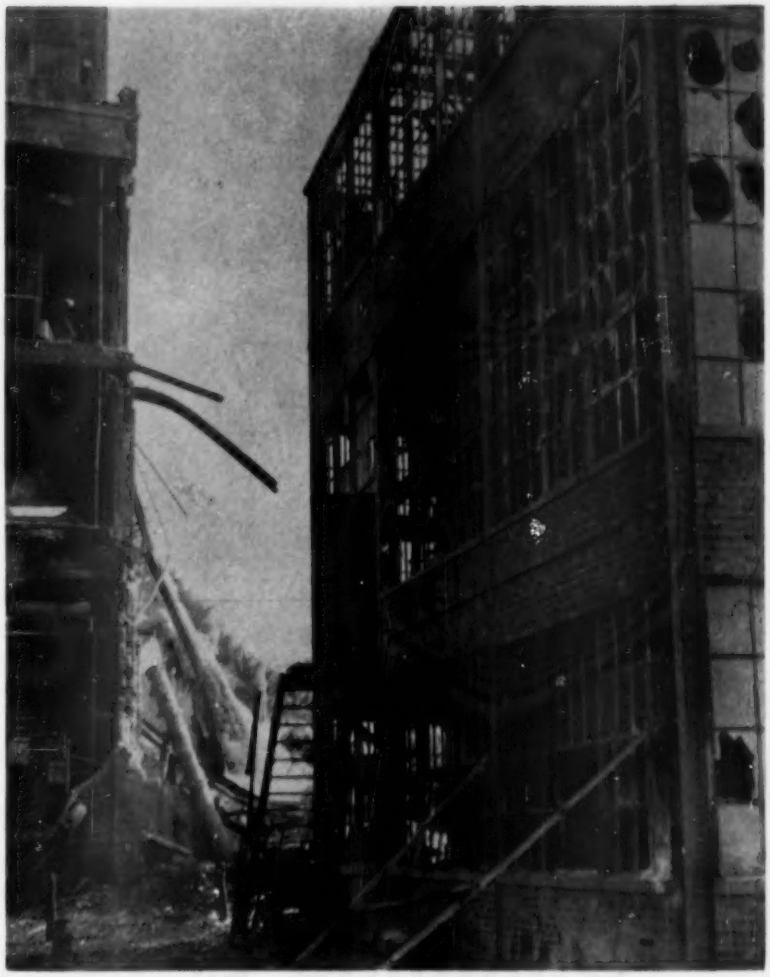
Dust explosions may shatter reinforced concrete construction unless vents are provided to release the pressure.

fort is usually made to ascertain whether the product is combustible or explosive. Laboratories are available where tests can be made to determine the relative flammability and explosive characteristics of dust samples. Frequently in making such determinations it is enough to know whether the product is more or less hazardous than some other material for which data are already available. In other instances it is necessary to determine the ease of ignition, minimum explosive concentration, maximum pressure, rates of pressure rise at different concentrations, and oxygen reduction necessary to prevent ignitions.

Some attempts have been made to determine the relative explosibility of different dusts by considering their chemical composition and assuming that complete combustion will occur after ignition. Such computations become quite complicated; not only particle size but uniformity of particle size and not only concentration but uniformity of dispersion are important factors that must be considered. As a rule, greater dependence can be placed on actual explosion tests in which the pressures produced can be measured and recorded.

Information on the explosibility of a large number of carbonaceous dusts and powders used in the chemical industry has been published as a result of tests made in laboratories of the U. S. Department of Agriculture and the Bureau of Mines.[1] Additional unpublished information is available as a result of tests conducted with samples submitted to laboratories through insurance organization representatives, state and city officials, safety officers, and others. It is not possible to mention here all substances found capable of producing explosive dust and air mixtures. The list runs from A to Z—adipic acid to zirconium hydride.

The severity of the explosion hazard varies considerably. Some dusts and air mixtures following ignition produce relatively low maximum pressures—only 3 or 4 pounds per square inch—while others produce pressures exceeding 100 pounds per square inch. In some instances the rate of pressure rise is comparatively low—only 40 or 50 pounds per square inch per second — while other reactions are very rapid, with rates of pressure rise exceeding 10,000 psi. per second. One sample of diazoaminobenzene when tested in the laboratory equipment at a concentration of 1.0 ounce per cubic foot produced 110 pounds psi. explosion pressure, with a maximum rate of pressure rise of more than 11,000 psi. per second.



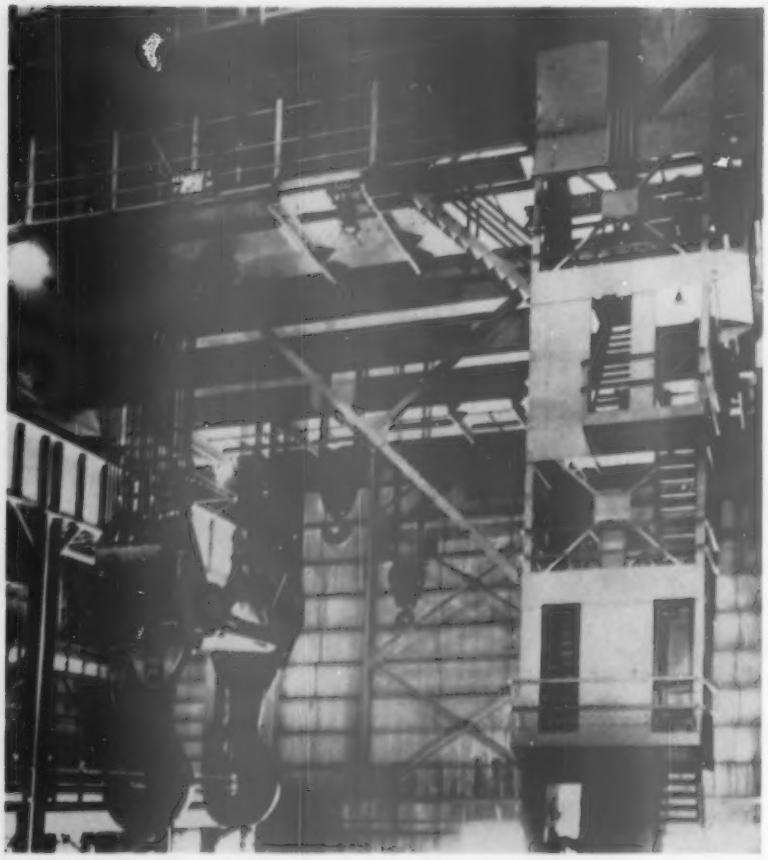
Large windows in the building at the right prevented serious structural damage when a dust explosion occurred in the plant. Building at left was not vented.

## Reactions in Explosions

Physicists have been studying the behavior of dust explosions for many years, but it is not possible to explain all of the reactions that occur. It is comparatively easy to accept the explanation that in explosions of carbonaceous dusts carbon dioxide, carbon monoxide, and other gases are being produced during the combustion period and that these gases, which occupy more space than the dust that produces them, plus the expansion caused by the heat of combustion, produce the pressure that is evident when such ignitions occur within a closed space.

With explosions of certain other dusts, such as aluminum powder, aluminum oxide is formed. This product occupies less space than the powder and oxygen required to form it, and any pressure noted must be due to extremely rapid heating and expansion of the residual gases or some other re-

*—To page 102*



Increased visibility will be the prime operator requirement on tomorrow's cranes.

A typical heavy-duty steel mill crane. Stairs rather than ladders should be used wherever possible.

# Outfitting Cranes for the Automatic Factory

By W. C. BENNETT

SAFETY devices on cranes are anything but new. Cranes in the steel industry are compiling an enviable safety record. But what about tomorrow's industrial cranes? It is immediately apparent that safety requirements will become increasingly more stringent as industrial cranes are outfitted for tomorrow's automatic factory.

The accident hazard from a crane may well increase in direct proportion to the degree of automation, the increase in speed, the decrease in personnel training. We might well take our cue from the steel mills which have long been faced with expensive downtime and the additional hazard of handling molten metal and have consequently better equipped their cranes from a safety point of view.

The problem of the falling hook block is one of the most important safety considerations. A high safety factor in the ropes, safety ropes, load cells, equalizer bars, self-aligning equalizers, limit switches, and special hook blocks is used in an effort of prevent the ropes from breaking.

Hoisting limit switches used in steel mills are almost always of the power-circuit type although a control-circuit limit switch is sometimes used to precede the power limit switch. The power limit switches are actuated when

W. C. BENNETT is Electrical Engineer, Alliance Machine Company, Alliance, Ohio. This article has been adapted from a paper presented at the Fifth Biennial Materials Handling Conference, sponsored by the Westinghouse Electric Corp., Columbus, Ohio, February 1955.

the hook block lifts a weight on a rope attached to a counter balanced arm on the switch. The hook block, as it nears the maximum usable height, trips the limit switch by lifting the weight. The limit switch disconnects the motor from its control and reconnects it for emergency dynamic braking, the brakes being set when the motor is disconnected. The switch is so connected that the operator can "back-out" or lower from the tripped position, but he cannot hoist until the switch re-sets.

As very little travel is required for the combination of dynamic braking and the spring set electrical release brakes to bring the load to a stop, this type of limit switch does not use much of the available lift. The other advantages of the power circuit limit switch over the control circuit limit switch are its greater dependability and its independence from extra conductors.

A patented hook block is sometimes used to back up the power circuit limit switch. This is a hook block with built-in compression springs. The springs bring the kinetic energy of the block and the load to a safe stop against the lifting beam with a safety factor of three remaining in the ropes. Since the ropes are designed with a factor of safety of from five to eight, even moderately worn ropes will not break. This hook block is used in conjunction with a circuit breaker, or switch, that disconnects the power from the motor.

The second limit switch, an additional safety device, is non-resetable. The operator then must call a maintenance man to reset the second limit switch, and the maintenance man has the opportunity to determine why the first limit switch failed, and to repair this condition. This hook block is now required on new cranes built for one of the country's largest steel producers.

On certain types of cranes where the ropes are concealed inside a column, a slack cable limit switch of the control circuit type is used to prevent snapping the ropes by suddenly picking up a heavy load after the drum, motor, and brake wheels have acquired a high amount of kinetic energy. Some users specify warning lights to indicate when the hook block is approaching the limit switch.

Self-aligning equalizers are provided to distribute the load on the ropes when the center of gravity of the load does not coincide with the center line of the hook or when side loads are picked up.

Additional safety is provided on hot metal cranes. Ladle cranes have two motors on the main hoist and each motor has two power release brakes. Soaking pit cranes, ingot stripping cranes, and all heavy duty mill cranes have two brakes on the hoist and, as with the ladle crane, each is capable of dissipating the energy required to bring the loaded hook from rated lowering speed to a complete stop.

Load cells are beginning to be used for weighing and they can be arranged to provide warning of severe overloads.

Travel motions are protected by emergency dynamic braking, hydraulic brakes, slow-down limit switches, and bumpers. On cranes equipped for it, emergency dynamic braking is effected when power is cut off or when the master is either returned to the off position or moved in the reverse direction.

Slow down limit switches are actuated when the limits of travel are approached. These are control circuit devices that return the control to an intermediate speed point when the master is at a higher point.

Bumpers are generally spring loaded with the springs designed to absorb the kinetic energy of the loaded machine traveling at about 50 per cent speed. Hydraulic bumpers have been used.

Other devices add to the safety of the travel motions. Hydraulic brakes are often used to give faster stops. Sanders are used when rain, condensation, or oil fumes make the rails slippery. Warning devices such as horns, sirens, gongs, and signal lights are employed.

Safety devices for the operator include heat-resistant glass for excessive heat conditions, air conditioning, and a main line switch cut-off available both in the cab and close to the boarding point. Some bridges have bridge boarding switches to interlock the undervoltage circuit of the bridge control panel by a palm-operated switch actuated by the person boarding the crane.

The maintenance man is protected by provision for padlocking all switches controlling power circuits in the "off" position. Wires for each control are wired in separate conduit and power, resistor, and control wires are wired in separate conduit. Every effort is made to have all conduit accessible from the foot walks, so

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Self-aligning equalizers can be used to distribute the load on the ropes.

# GENERAL CHAIRMEN NSC SECTIONS—1955-56

**Elected at the 43rd National Safety Congress**

**Aeronautical Industries**
A. F. Pagnotta, safety engineer, North American Aviation, Inc., Downey, Calif.

**Air Transport**
L. Corbeil, fire and safety supervisor, Trans-Canada Airlines, Dorval, Quebec.

**Automotive and Machine Shop**
H. M. Huntington, assistant consultant, industrial safety, International Harvester Co., Chicago.

**Cement and Quarry**
Howard Riefenstahl, safety director, Alpha Portland Cement Co., Easton, Pa.

**Chemical**
S. F. Spence, director safety and fire prevention, American Cyanamid Co., New York.

**Coal Mining**
F. J. Foresman, safety director, The Pittsburg & Midway Coal Mining Co., Pittsburg, Kans.

**Construction**
R. L. Jenkins, chief, Safety Division, Office of the Chief of Engineers, Washington, D. C.

**Electrical Equipment**
J. J. Lawler, division safety engineer, Radio Tube Div., Sylvania Electric Products, Inc., Emporium, Pa.

**Fertilizer**
Curtis A. Cox, assistant manager, Manufacturing Dept., Virginia Carolina Chemical Co., Richmond, Ind.

**Food**
Nixon de Tarnowsky, safety engineer, The F. & M. Schaefer Brewing Co., Brooklyn, N. Y.

**Glass & Ceramics**
J. H. Gattrell, Blue Ridge Glass Corp., Kingsport, Tenn.

**Marine**
John D. Rogers, vice-president, Esso Shipping Co., New York.

**Meat Packing, Tanning and Leather**
E. D. Peeler, Jr., safety director, General Shoe Corp., Nashville, Tenn.

**Metals**
E. H. Houck, superintendent of safety and welfare, Jones & Laughlin Steel Corp., Aliquippa, Pa.

**Mining**
J. T. Williams, safety engineer, Bunker Hill and Sullivan Mining and Concentrating Co., Kellogg, Idaho.

**Occupational Health Nursing**
Mrs. Bernardine Holman, R.N., director of nursing, Employers Mutual Liability Insurance Co., Wausau, Wis.

**Petroleum**
Fred Claiborne, safety assistant, Stanolind Oil and Gas Co., Tulsa, Okla.

**Power Press and Forging**
George Dewey Reed, safety engineer, Lansing Employers Underwriters, Lansing, Mich.

**Printing and Publishing**
Miss Lillian Stemp, Industrial Services, Whiting, Ind.

**Public Employee**
J. E. Hamm, safety director, County of Los Angeles, Los Angeles, Calif.

**Public Utilities**
H. T. Jayne, safety supervisor, Philadelphia Gas Works Div. of United Gas Improvement Co., Philadelphia.

**Pulp and Paper**
Francis H. Wagner, director of safety, The Mead Corp., Chillicothe, Ohio.

**Railroad**
C. T. DeWitt, superintendent of safety, Northern Pacific Railway, St. Paul, Minn.

**Rubber**
W. M. Graff, safety director, United States Rubber Co., New York.

**Textile**
Glenn G. Fleming, safety director, Celanese Corp. of America, Charlotte, N. C.

**Wood Products**
Robert M. Gilmore, general safety supervisor, Rayonier, Inc., Hoquiam, Wash.

* * *

**Complete lists of the executive committees of the various sections will be found in the sectional news letters.**

# POLE-TOP RESUSCITATION

**Published by the National Safety Council**
**425 North Michigan Ave., Chicago 11, Ill.**

1. In the electric utility industry one of the most difficult rescue situations occurs when a lineman is rendered unconscious by an electric shock while working on a pole. This calls for immediate action to clear the victim from the source of shock and to restore his breathing.

## History

2. The pole-top method developed by E. W. Oesterreich in 1931 has been in general use in the electric utility industry for applying manual artificial respiration to linemen shocked on the poles.[1,2] This method allows for resuscitation to be started on the pole and eliminates the sometimes fatal delay when victims must be lowered to the ground before resuscitation can be started. In 1939 studies by Kouwenhoven, Hooker, and Langworthy showed that in volunteers who passively suspended their respiration, the pole-top technique gave greater air exchange in the lungs than did the Schafer Prone Pressure, the standard method at the time of their study.[3]

3. Recent studies reappraising methods of manual artificial respiration led to the adoption of 2-phase push-pull methods, such as the back-pressure arm-lift method, which provide greater lung ventilation and blood oxygenation than can be obtained with a "push only" or "pull only" method where there is only one active phase to the respiratory procedure.[4-8] As a result of these studies modifications of the standard pole-top method, which is a "push only" method, were suggested. Experiments at the University of Illinois Medical School showed that the incorporation of a "pull" or active inspiration phase, in the standard pole-top method produced ventilatory results comparable to those obtained by the back-pressure arm-lift method[9-10] (See Figure 1).

This Data Sheet is one of a series published by the National Safety Council, reflecting experience from many sources. Not every acceptable safety procedure in the field is necessarily included. This Data Sheet should not be confused with American Standard Safety codes, federal laws, insurance requirements, state laws, rules and regulations, or municipal ordinances.

Figure 1. Experiments in pole-top resuscitation methods being performed on totally apneic anesthetized-curarized subject. (Commonwealth Edison Co.)

4. Based on the findings of these experiments (Tables I and II) many companies have adopted the double rock modification of the pole-top arm-lift method in the hope that the greater amounts of air produced will result in successful resuscitation of a larger number of victims.

## General Procedures

5. If pole-top resuscitation or any other form of artificial respiration is needed it is needed immediately, not after the rescuer and victim are in the most comfortable and ideal positions.

6. It must be mentioned that modified pole-top methods should not be considered a complete replacement for the standard procedure. Because of line design, pole conditions, and the unpredictability of the position and condition of the victim, it may not always be possible or desirable to perform the arm-lift phase of the modified method. Situations may arise where any resuscitation on the pole would be hazardous and impractical. Under these conditions, the victim should be lowered to the ground and a prone method applied.

7. The procedure to be followed will be determined to a large extent by the individual company policy and the training, confidence, resourcefulness, and ingenuity of the rescuer.

8. To be really prepared to

TABLE I

Pulmonary Ventilation with Manual Artificial Respiration

*(After Gordon et al)* [9]

| State | Method | Variation | Ventilation (cc./respiration)* |
|---|---|---|---|
| Conscious Resting | Normal | Tidal Volume<br>Vital Capacity | 514<br>4286 |
| Unconscious Apneic | Schafer | Prone Pressure<br>Back-Pressure | 382<br>572 |
| | Pole-top | Standard | 646 |
| | | Push-Pull | |
| | | Double-rock | 1044 |
| | | Single-rock | 1012 |
| | | Forward-rock | 902 |
| | | Arm-grasp | 1012 |
| | Prone Push-pull | Back-pressure arm-lift<br>Back-pressure hip-lift | 1144<br>1128 |

* Mean values for five normal, healthy, adult male volunteers. All methods performed at rate of 12 times per minute.

render the maximum aid to a victim, the mechanics and degrees of effectiveness of the various methods of resuscitation should be understood. Regardless of the position in which the rescuer may find himself or the patient, when he gets within SAFE reach of the patient he should be able to start administering some form of resuscitation immediately. This "emergency" resuscitation should continue until he can work himself and the patient into a position where more effective resuscitation methods consistent with the prevailing conditions can be used.

9. It should be remembered that the vertical position is considered by medical authorities to favor the collapse of the vascular system under conditions requiring artificial respiration. Therefore, any pole-top technique should be considered an expedient during the time preparations are being made to lower the victim. Unrevived victims should be lowered to the ground as soon as possible and artificial respiration continued, using one of the accepted prone push-pull methods.

10. Each operating electric utility should outline general procedures of rescue to be followed within its own organization. The following aspects should be considered:

a. Size and make-up of crews.

b. Methods available for communicating requests and the procedures to be followed in making requests for assistance.

c. Sources of assistance within the organization and/or from outside organizations, such as local Fire Departments, etc.

d. Methods of rescue operations consistent with the type of construction used throughout the system.

e. Methods to be taken that will prevent or at least reduce the possibility of an additional accident occurring as the result of the attendant movement of personnel and equipment necessary in a rescue operation of this type.

f. Methods of rescue and equipment necessary for a rescue operation on the basis of possible misapplication of complicated appliances (mechanical breathing equipment) or the failure or unavailability of this type and the training of personnel in the use of these materials and/or equipment that are normally available.

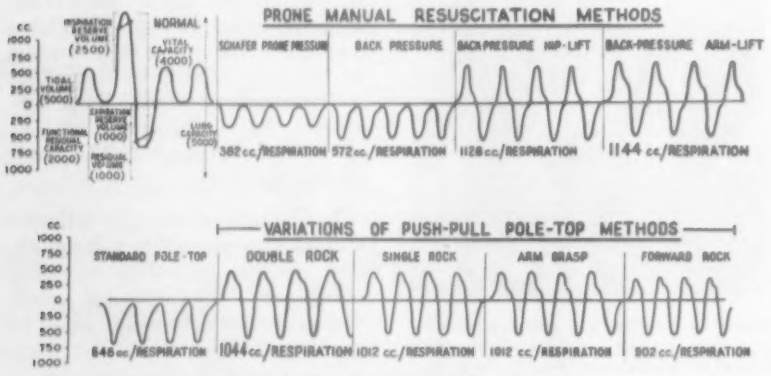



Table II. (Commonwealth Edison Co.)

## General Precautions

11. While it is important to reach a victim and start artificial respiration as quickly as possible, the rescuer must think of his own safety.

a. He should develop safe working habits and be constantly alert to the hazards of his work so that in times of stress due to an accident he will be able to perform his part in the rescue work with speed and efficiency.

b. He should be able to examine conditions at the scene of an accident and decide if it is going to be possible to safely attempt pole-top resuscitation or if the safest course is to concentrate on lowering the victim to the ground where a prone method can be used.

c. He should not attempt to overexert himself to the point of exhaustion by running or climbing too fast or otherwise reducing his ability to perform resuscitation effectively.

d. He should approach any rescue operation with care, observing pole conditions as he climbs, noting especially all avenues of safe approach and exit.

e. He should take care to wear such protective equipment as is necessary to safely approach and rescue the victim and he should remind those who are to assist him to wear such protective equipment for the protection of life and property in case it is necessary to remove energized wires in order to clear the victim from the circuit.

f. He should take precautions to protect his body from contact with the victim's body until the victim has been removed from all contact with the energized line or equipment.

g. After clearing the victim from the energized equipment he should apply some type of artificial respiration IMMEDIATELY while he works into a position to perform the best method consistent with the situation.

Figure 2. Rescuer approaching victim. Note position of safety strap between victim's legs. (Northern Ind. Pub. Serv. Co.)

h. If he is going to assist a rescuer who is working on the victim he should take into consideration the physical condition of the rescuer and relieve him if necessary.

i. He should be familiar with a few simple knots that can be used quickly and effectively to attach safe lowering lines to the victim without undue waste of time or interference with the operator.

j. He should be familiar with safe rigging methods so that the safety lines are not placed where they will be cut by sharp objects or fouled in equipment or allowed to work loose and drop the victim.

## Rescue Operations

12. The rescuer should use rubber gloves and/or other insulated materials and should take all necessary precautions to safeguard himself. When he reaches the victim, he should carefully clear him from electrical contact and allow him to hang alongside the pole from the safety strap (See Figure 2).

13. Having determined that resuscitation can be applied on the pole without danger to himself he then proceeds with one of the pole-top techniques. In the meantime, whenever possible, arrangements should be made by others to lower the victim from the pole.

## Pole-Top Arm-Lift Technique

14. The rescuer (the one who will administer artificial respiration) takes a position on the pole below the victim. After placing his safety strap around the pole, he proceeds to work his way upward with one leg of the victim on either side of his safety strap. The victim's body should be between himself and the pole or equipment from which the victim is hanging (see Figure 3). When the rescuer's safety strap is as high as possible between the legs of the victim, the victim is held in a straddle position on the rescuer's safety strap. The victim's safety strap should remain around the pole and should not be unsnapped or cut until the victim is to be lowered. Tools which may interfere with the resuscitation or injure the rescuer should be removed from the victim's belt.

15. If the victim's mouth can be quickly examined, it should be cleared of foreign substances and the tongue should be pulled forward to clear the air passage. This operation, however, should not take precedence over the immediate need to start resuscitation.

16. The rescuer encircles the victim's waist with his arms, placing both hands on the abdomen below the victim's belt, thumbs below the lower ribs and fingers touching, or overlapped. (See Figure 4).

17. With his arms and hands, the rescuer compresses the victim's abdomen with an inward and upward motion. He augments this expiratory phase by rocking the upper part of his body backward with the victim (See Figures 5 and 6). He then releases the pressure while rocking forward to the rest position.

18. The rescuer moves his hands upward over the victim's chest and locks his arms under the victim's armpits (See Figure 7). He then rocks backward again, simultaneously drawing his arms upward and backward (See Figures 8 and 9). This lifts and stretches the victim's arms thereby expanding the chest and producing active inspiration. The complete cycle is repeated ten to twelve times per minute, and should be continued until the victim breathes normally or is ready to be lowered to the ground.

19. If the victim recovers sufficiently to breathe naturally, the rescuer should retain him in position and under control until the violence sometimes associated with recovery has passed and the victim has become rational. The rescuer should be prepared to restrain the victim's arms in the event of violence, whether during or after resuscitation, and thus prevent any second contact where conditions make this possible. Artificial respiration is to be resumed immediately if the victim again ceases to breathe.

Figure 3. Lineman freeing victim from energized wire. (Northern Ind. Pub. Serv. Co.)

## Standard Pole-Top Technique

20. The rescuer places the victim astride a safety strap as described in paragraph 14 for the Pole-Top Arm-Lift Method. He then encircles the victim's waist with his arms, placing both hands on the abdomen below the victim's belt, thumbs below the lower ribs and fingers touching, or overlapped (See Figure 4).

21. With his arms and hands, the rescuer compresses the victim's abdomen with an inward and upward motion. He augments this expiratory phase by rocking the upper part of his body backward with the victim (See Figures 5 and 6). He then releases the pressure while rocking forward to the rest position.

## Lowering The Victim to The Ground

22. Additional workmen, as as-

Figure 4. (Commonwealth Edison Co.)

sembled, will obtain and arrange rope rigging securing the victim to the lowering line without interfering with the rescuer's motion (See Figure 10.)

23. As soon as the tackle has been adjusted, the victim is lowered quickly to the ground. A fibre hand line having a minimum strength equivalent to at least one-half inch manila rope should be used. Lines of five-eighths or three-quarters inches are considered preferable. This line should first be passed over a crossarm and not over crossarm braces, sharp edged surfaces or through pulleys. The line should be passed under the victim's arms and fastened securely, preferably in front, by at least three half-hitches. In another method the rope line is fastened in front to the "D" rings of the victim's belt (See Figure 11). The latter arrangement is found convenient by some rescuers when it is desired to continue resuscitation as the victim is lowered. Such support is close to the center of gravity of the victim's body and, therefore, is not suited to free lowering of the victim unless the victim's belt is first moved up to the arm pits and properly secured to maintain him in an upright position while being lowered.

24. Whether or not the victim has fully recovered and is breathing when he reaches the ground, he should be laid prone at once and in proper position for the immediate administration of artificial respiration by the Back-Pressure Arm-Lift method, if this should be necessary. At this time the victim should receive proper treatment for shock and, especially, he should be kept warm. When it is apparent that artificial respiration is no longer necessary, care of the victim should be continued in accordance with regular first-aid procedure until medical help is obtained.

## After-Shock Precautions

25. Under no conditions should a victim of electric shock be allowed, after resuscitation, to climb down the pole or other structure. He should be supported by a hand line and lowered thereby.

26. Attention is called to the importance of immediate rest for any victim of electric shock, especially if there has been unconsciousness. He should be under constant observation and should not be allowed to sit up or walk until placed in the care of a doctor.

## Procedure of Assistant Rescuers

27. Assistant rescuers should wear rubber gloves, rubber sleeves, and insulated hats if available. Assistants should be very deliberate, taking care not to interfere in any way with the operator (See Figure 11).

28. Assistants should make certain that neither the victim nor the operator is exposed to live conductors. They should cover all

Figure 5. (Commonwealth Edison Co.)

Figure 6. (Gulf States Utilities Co.)

possible sources of contact, making certain that line hoses, blankets, etc., have not shifted. They should remove the victim's climbers and also the tools from his belt to prevent possible injuries.

29. They should stand by to assist in lowering the victim to the ground when the operator gives word.

30. Medical aid should be summoned as soon as possible.

## Training of Line Crews

31. For pole-top methods to be administered in the most efficient manner, it is of the utmost importance that all line crews who are to use them should be trained and drilled in the techniques until they have been thoroughly mastered. Such training will eliminate loss of time, increase efficiency of resuscitation, put rescuers at ease, and avoid needless haste.

32. Each company should develop personnel training programs that encourage the individual to develop confidence, resourcefulness and ingenuity for rescue work of this nature. This will aid employees in making those vital split second decisions that are so essential in this type of accident.

33. Training on a crew basis has been found to be best. Team work techniques are developed that increase the efficiency of rescue operations and reduce wasted efforts.

Figure 7. (Commonwealth Edison Co.)

Figure 8. (Commonwealth Edison Co.)

Figure 9. (Gulf States Utilities Co.)

34. It is recommended that after crews receive training they practice both pole-top and prone methods on a regular schedule of not less than once in every three-month period.

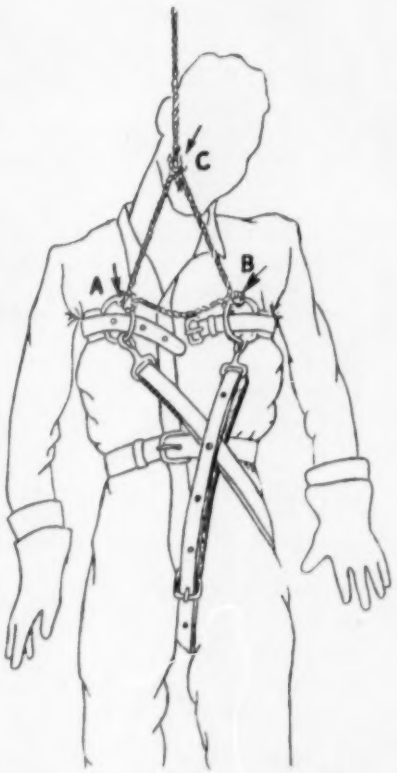
35. The scheduling of training practice should be consistent with the turnover of crew personnel, the effectiveness of the training program, and the individual response to the training as determined by spot checking by competent authority.

## Alternate Methods of Placing Victim In Position

36. Experience has shown that other methods of placing the victim in position are practicable and even preferred under some conditions. The more common variations from the method described are:

**(a) One Leg Over Head.** Rescuer puts safety strap around the pole a little below the line of the victim's body belt. Rescuer then grasps one of the victim's legs, lifting it well above rescuer's head (See Figure 12). Rescuer swings victim's body so that he passes his head under and between victim's legs. The victim should now be astride rescuer's safety strap. Rescuer takes two short steps upward and proceeds with resuscitation.

**(b) Side Saddle.** Rescuer



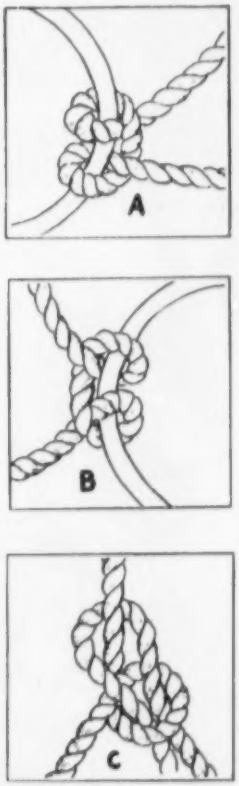




Figure 10. Here is a quick way to prepare an injured man for lowering to the ground from the pole top:

1. Place the handline in a free running position over a support on the pole.

2. At a point about five feet from the fall end of the handline, tie two half hitches in one of the body belt "D" rings. (See A in sketch).

3. Tie two more half hitches in the other "D" ring, leaving about a foot of rope between the two "D" rings (See B in sketch).

4. Tie a bowline knot with the balance of the end of the rope (C in sketch).

5. Unsnap the single-strap end of the safety strap and pass it from the front to the back, between the legs, and around to the front. Pass the single end between the two straps of the double end and snap the snap hook into the same "D" ring it came from.

6. Unbuckle the body belt and work the body belt up under the armpits; also work the safety strap up into the crotch. The man is now ready to lower. (Bureau of Safety, Chicago).

Figure 11. Assistant makes preparations for lowering victim while rescuer continues pole-top resuscitation. Note protective equipment worn by both men. (Northern Indiana Public Service Co.)

places safety strap around pole on a line with the victim's hips. Rescuer then reaches down and takes hold of the victim's legs slightly below the knees (See Figure 13), and elevates them, making the victim's body pivot in his own safety belt. He then takes two short steps upward, pulls victim back against his chest and starts resuscitation (See Figure 14). (This procedure is found to be desirable when pole conditions make impossible or difficult the

Figure 14. "Side Saddle"—final position—with victim's body balanced in his belt, rescuer has moved up and pulled victim onto his belt.

Figure 12. "One Leg over Head" method of placing victim in position on rescuer's belt. This technique guards against injury to rescuer's person or gloves from victim's spurs. (Gulf States Utilities Co.)

approaches suggested in "Standard Pole-Top Technique" or **(a)** above.) This method cannot be used too successfully with the arm-lift methods.

**(c) Both Legs Over Head.** Rescuer places safety strap around pole on a line with victim's hips. Rescuer then reaches downward and grasps both legs of victim slightly below the knees (See Figure 15) and swings both legs over his head (See Figure 16). This places the victim on rescuer's safety strap in side saddle position with legs over one side. Rescuer then proceeds with resuscitation. (This is an alternate to the "Side Saddle" **(b)** for conditions where it is best to swing the victim's legs over to the other side of the rescuer.)

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Figure 13. "Side Saddle"—first position—with right hand under victim's knees and left hand on shoulder, rescuer pivots victim in his belt.

Figure 15. "Both Legs over Head"—first position—rescuer places right hand on victim's right leg iron as shown and with left hand keeps victim's legs together.

Figure 16. "Both Legs over Head"—second position—rescuer has swung victim's legs to other side of pole. As victim's body pivots in belt, rescuer proceeds to complete side saddle position as before, but reversed.


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**ACKNOWLEDGEMENT**

This Data Sheet was written by J. E. Appel, Chairman of [illegible] Engineering Committee, Public Utilities Section. The final draft was prepared by George MacDonald, Staff Representative, Public Utilities Section, National Safety Council. It has been extensively reviewed by Council members and approved for publication by the Publications Committee of the Industrial Conference of the National Safety Council.


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A dog has many friends because the wag was put in his tail instead of his tongue.

# Fire Prevention Week in Germany

A FAST-MOVING WEEK of fire prevention and fire-fighting demonstrations, open houses, and displays pointing up National Fire Prevention Week (October 16-22) in Headquarters Area Command was climaxed with a colorful firemen's parade and German-American fire-fighting show in Heidelberg, Germany.

Throughout HACom, fire station crews displayed their equipment and techniques before the public and engaged in short instruction drills reminding Army personnel and the public of fire dangers and the means to combat them.

The systematic and dramatic program of inspection and education began with special attention on public assembly places. Included were shopping centers, offices, shops, and storage areas. Fire drills were practiced at each military kaserne and American Dependent School in conjunction with local fire departments.

The German public actively participated in the activities by visiting Army fire stations in Heidelberg and Mannheim.

Climaxing Fire Prevention Week, German and American firemen paraded through Heidelberg's business district, arriving at the famed University Place. Here fire-fighting contests and demonstrations were staged before several thousand spectators. A fire extinguisher manufacturer participated by demonstrating and displaying some of the newest fire-fighting equipment.

United States Army Europe fire loss statistics for the fiscal year indicate that Headquarters Area Command ranked third in fire prevention. First and second were the smaller principalities of Berlin and Bremerhaven. Investigations showed that the primary causes of fire were electrical wiring and appliances, inflammable liquids, matches, and overheated grease.

Although this year's Fire Prevention Week is only the fourth such campaign, Army reports show that fire losses have been steadily decreasing in the United States Army Europe.

In a letter to all members of Headquarters Area Command urging participation in Fire Prevention Week, HACom Commanding Officer Col. Charles F. McNair stated recently, "Each of us has the responsibility of being a self-appointed fire warden and safety coordinator. We should utilize Fire Prevention Week to take stock of our existing fire program, and to indicate new and more effective measures."

Army HACom Fire Department demonstrates the newest fire-fighting methods and equipment during Fire Prevention Week in University Platz, Heidelberg, Germany.

# WHAT'S COOKIN' in the FIELD

- ACTIVITIES
- PROGRAMS
- EVENTS

BY FIELD SERVICE DEPARTMENT

## Annual Managers' Meeting

One hundred thirty-seven safety council managers and others interested in local safety organization registered for the 1955 Annual Meeting of Safety Council Managers, held in Chicago, October 14-15, in conjunction with the National Safety Congress.

An innovation in the 1955 meeting was the scheduling of 10 workshop sessions which permitted managers to participate in small-group discussions of their choice. Subjects included safety council operating policies; organization plan; objectives; leadership responsibilities, including responsibility for finance, and each of the major program areas of state and local safety councils.

Workshop groups devoted Friday afternoon to deliberation and discussion leaders reported to the entire conference on Saturday. Reports of the various groups are to be incorporated in one printed volume to serve as an operating manual for local safety organizations. Framework for the group discussions was provided by the Field Service Memos jointly developed by National Safety Council staff and local safety council managers during the previous year.

Managers heard reports from George C. Stewart, executive vice-president and general manager of the National Safety Council, who emphasized the importance of local safety organization in the national safety movement; and from William G. Johnson, assistant general manager, who explained NSC organization and reviewed developments within the Council during the past year.

Paul F. Hill, manager of the Field Service Department, discussed the functions of the department and deployment of the greatly-expanded field staff.

Considerable interest was shown in the various new inventories completed or now under way, including the School Safety Inventory, Home Safety Inventory, and Inventory of Chapter Operations.

James K. Williams and Edwin S. Smith, NSC district representatives, reported on self appraisal of chapter operations and distributed detailed results of one such appraisal in New England.

Other items on the program included discussions of S-D Day plans for 1955 and current issues with reference to auto seat belts.

## Special Achievement Awards

Fourteen local safety councils won certificates of accomplishment for exceptional accident prevention programs conducted during 1955. Plaques were presented at the Annual Award luncheon held in Chicago in conjunction with the Annual Meeting of Safety Council Managers.

Winners were:

Safety Council of the Chamber of Commerce of Fort Wayne, Ivan A. Martin, manager, for its pedestrian protection campaign.

Fort Worth Safety Council, Dr. W. J. Danforth, manager, for its annual Police Appreciation Banquet. Fort Worth also won an honorable mention citation for its Annual Industrial Institute.

Greater Los Angeles Chapter, Joseph M. Kaplan, secretary-manager, for its Traffic Engineering Conference. The Greater Los Angeles Chapter also won an honorable mention citation for its First West Coast Noise Symposium and for its freeway safety campaign.

Middletown Safety Council, Paul E. Wilson, director, for its "Lucky Stop" project designed to encourage closer obedience to stop signs.

Metropolitan New Orleans Safety Council, Dudley Andry, manager, for its industrial safety contest.

Eastbay Chapter (Oakland, Calif.), Clinton W. Dreyer, managing director, for its "'Deputy Dave" program, a child safety TV program.

Omaha Safety Council, Harry Hatcher, manager, for its street lighting project. Omaha also won an honorable mention citation for its firearm safety program.

Racine County Safety Council, Robert M. Sorensen, executive secretary, for its Bicycle Safety Week.

Caddo Bossier Safety Council (Shreveport, La.), Col. Charles E. Doerler, managing director, for its outdoor advertising campaign on traffic safety. The Caddo Bossier Safety Council also won an honorable mention citation for its "Driver's Guide" booklet.

Sioux Falls Safety Council, Bus Feay, executive secretary, for its vehicle safety-check program.

Safety Council of Western Massachusetts (Springfield, Mass.), Victor J. Mari, executive director, for its "Operation Bluecoat" project, a plan to develop closer relationships between area police departments engaged in safety education work.

Baltimore Safety Council, John P. Rostmeyer, executive secretary, for its program of safety inspection in the Baltimore City school shops.

San Joaquin County Safety Council (Stockton, Calif.), Mrs. Lovilla Lalor, executive secretary, for its County Safety Conference.

Delaware Safety Council, J. James Ashton, manager, for its driver education program for independent schools. Delaware also won an honorable mention citation for its annual report.

Utah Safety Council, G. Ernest Bourne, executive secretary, for its Traffic Accident Investigators' School.

An honorable mention citation was given the San Francisco Chapter, Iver C. Larson, executive vice-president, for an unusually effective auto safety booth; and letters of commendation were voted by the committee of judges for the St. Joseph Safety Council, Walter D. Ladd, manager, for the

*—To page 97*

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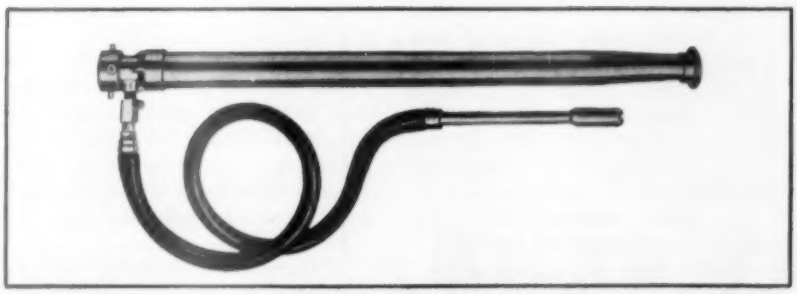

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*What the Safety Engineer Can Do With*

# Accident-Cause Statistics

**There is more to statistics than just collecting them. Here are 11 ways you can put them to work for you**

**By ROBERT D. GIDEL**

THE MOST effective way to improve the accident record of a business, industry or agency is to concentrate on one phase of each problem at a time rather than trying to stop all accidents at once—the "rifle vs. shotgun" approach.

Unfortunately, many people are not able to analyze conditions so as to know where to concentrate the effort. They cannot distinguish between the important and the relatively unimportant in assignment of priorities to various duties and the setting up of procedures to assemble the needed facts to establish these priorities.

Ability to do this sort of thing is an art which needs cultivation. Hence, any guides, standards or statistical data which will aid in organizing and directing such activities are most desirable.

*Accident-cause statistics serve as guides and aids for industry's safety directors and state safety engineers.*

By proper follow-through on the problems pointed out by accident cause statistics, a safety man can make the job of accident prevention an application of techniques closely approaching scientific methods rather than the hit-or-miss propositions used in the past.

One of the first things we must know is "How does our accident record compare with others with similar activities? Is it worse or better?"

Recently I was trying to help organize some nation-wide activity in accident prevention among large hotel operators and retail store operators—operations which involve public as well as employee-accident exposure.

The first question raised was: "What should our accident figures be, to reflect a safe operation?" And, since the type of figures wanted did not exist, the first order of business was to set up some system to collect statistics so that comparisons could be made.

This is one definite need for accident-cause statistics. To have available a measuring stick which will reflect what would reasonably be expected in a safe operation.

A battery manufacturing company had an injury-frequency rate of 34. It was a fairly new operation with a new building, automatic conveyorized materials handling, good lighting, plenty of room, a full-time nurse, and a complete file of records so that they could tell exactly what was going on in all parts of the plant at all times. From all outward appearances there appeared to be no accident problem. But the national average injury-frequency for that type of operation was 14.

The plant manager didn't realize he had a problem until these statistics were explained to him. As we went further into making an injury-cause analysis, it became more apparent where the specific problem existed. Comparing his record with available national figures it wasn't difficult to convince him of the need for action.

A concentrated safety program lowered injury-frequency to 12 within a year.

Similar accidents may occur frequently but at widely separated locations so that their high incidence isn't always apparent. Accidents may be more numerous in the operation of some machines than in the operation of others—or in the performance of certain repetitive tasks.

Some unsafe practices which cause injuries may be committed repeatedly but at different times and in different places, so that their importance as accident causes is not immediately recognized.

All of these factors add up to the need for a more scientific method of analysis and investigation than has yet been done.

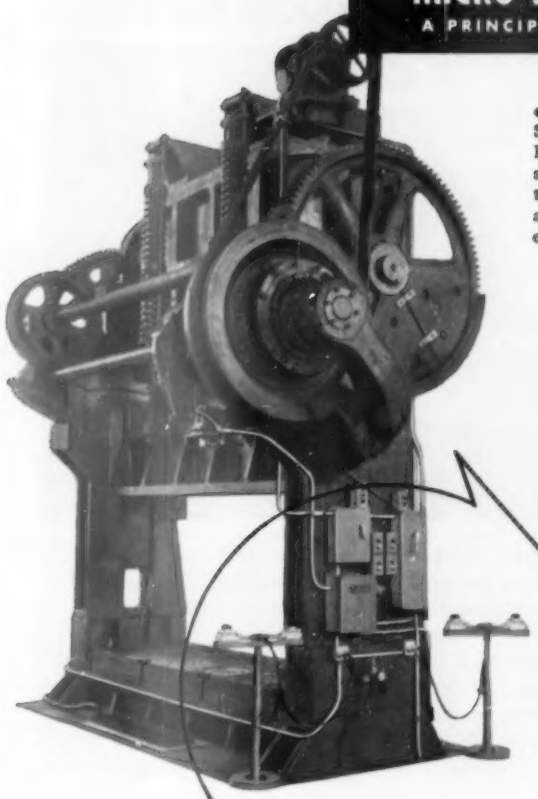
*State safety engineers and insurance company engineers should use accident-cause statistics in planning calls on business operations.*

If there are accident records available, it is possible to identify and locate the principal sources of accidents by determining the materials, machines and tools most frequently involved, and the jobs most likely to produce injuries.

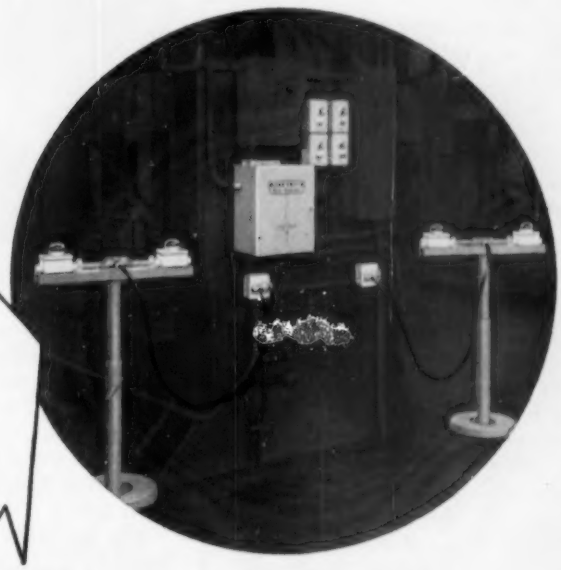
If there are no reliable records available, it is wise to review by anticipation the types of operations undertaken to determine

ROBERT D. GIDEL is Supervising Safety Engineer, Bureau of Labor Standards, U. S. Department of Labor, Washington, D. C. This article has been condensed from a paper presented before the Interstate Conference of Labor Statistics, Madison, Wis., July 8, 1955.

# MICRO SWITCH Trip Control
## A PRINCIPLE OF GOOD PRODUCTION



• MICRO SWITCH Trip Control is safe and cannot be "cheated." Shown here is a two-man installation on a large stamping press. Each man must have *each hand* on the Trip Control actuators shown on each side of the press during the entire downstroke of the ram. During the upstroke, operators are freed for productive activity. MICRO SWITCH Trip Control box is shown mounted on end of press.



# MICRO SWITCH Trip Controls for SAFETY and PRODUCTION

### Wide Variety of Press Control Methods Available

1 One operator—two hands.

2 One operator—two hands or one foot.

3 One operator—two hands or either hand or one foot.

4 Two operators—one to four hands, any combination, or one foot.

5 Three operators—one to six hands, any combination, or one foot.

6 More than six hands, any combination, or one foot.

**INCREASED PRODUCTION**

Instant electrical response
•
Feather-touch operation
•
Easy control changes
•
Decreased operator fatigue

**INCREASED SAFETY**

Two hand operation
•
Cannot be "cheated"
•
Inoperable if any component fails
•
Interlock prevents power stroke while changing dies

• MICRO SWITCH Trip Control provides a means of electrical control for any manually operated power machine. Its use has resulted in production gains up to 20%.

Whether the machine is a small single-operator punch press or a giant stamping press, which may require four or more operators, equipped with MICRO SWITCH Trip Control it cannot be operated except as determined by the supervisor.

Certain types of runs require one of the operator's hands to hold work in position from outside the danger zone. In such cases, operation by one hand, or one hand and one foot, can be provided. (See chart.)

There is a simplified MICRO SWITCH Trip Control to provide single stroke control for positive mechanical-type clutches. Another affords automatic cycling control for friction-type clutches and hydraulic machines. Accessories include oil-tight snap-action push-button switches, rugged, heavy duty, precision limit switches, lockout switches, pilot lights, etc.

(For your convenience, MICRO SWITCH carries in stock a complete line of clutch actuators including solenoids, solenoid valves, and air cylinders, airline filters, lubricators, and pressure regulators which can be ordered with your MICRO SWITCH Trip Controls.)

***For complete information on MICRO SWITCH Trip Controls and the name of the distributor near you call or write today.***

# MICRO SWITCH

A DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR COMPANY

In Canada, Leaside, Toronto 17, Ontario • **FREEPORT, ILLINOIS**

the hazards most closely related to said operations, and what to look for specifically. Accident-cause statistics for other similar operations are quite helpful at this point.

By doing this, inspection time can be conserved and efforts can be concentrated rather than trying to observe all at one fell swoop. This facilitates constructive recommendations and criticisms.

If a new safety director is coming into a plant, he will want to review the records and operations to see what the problems are, where they occur, how often and how severe, what's the potential, and are there any catastrophe exposures.

*Accident-cause statistics are essential to an intelligent appraisal of this type.*

Accident-cause statistics can be used to help determine the potential type, frequency and severity of injuries which might occur in an operation with a better than average present accident experience.

They would be particularly useful where possible catastrophe exposures exist, where conditions are constantly changing, which need constant rigid supervision, where serious immediate damage or injury could result.

Demolition activities, some types of construction, and work with hazardous materials are examples.

Just because the record has been good to date gives no reason for not being constantly alert to all possible control measures. You must anticipate future trouble by using accident-cause statistics concerning mishaps in similar activities as a guide.

Comparing local statistics with state or national accident-cause statistics can lead to a determination that more supervisory people are needed.

I was working with a company making bottle caps and seals. Their injuries were definitely out of line with published statistics on similar operations.

As we checked further we confirmed this, but also determined the bad experience was due primarily to occurrences on the second and third shifts. Further investigation indicated other problems on these shifts—delays, poor output, scrap, and general confusion. More study indicated the real problem was insufficient supervision on these shifts, since the operations were in a six-story mill type building with only three supervisors covering two floors each.

Whenever anything went wrong it was difficult to find the supervisors.

When more supervision was added to these shifts, the accident picture cleared up. But the improved operations were more important (costwise) to the company.

So, here was quite a chain of events leading from the use of accident-cause statistics.

*Need for more training of supervisors on supervisory techniques can be determined by comparing local statistics with accident-cause statistics.*

If accident analyses indicate poor morale, unsafe acts, and personal relations factors, it might be desirable to initiate a foreman's training program on psychology or human factors in supervision.

If accident analyses indicate excessive cases involving mistakes, confusion, doubt or misunderstanding in doing work, it might

## Turtle Club Enrolls 1,000th Member

THE INTERNATIONAL TURTLE CLUB, open only to men whose lives have been saved by hard hats, inducted its 1,000th member during the 43rd National Safety Congress in Chicago.

Bernard Schwartz, a lineman for Wisconsin Public Service Corporation, was granted Turtle Club membership as a result of an accident which occurred on a job recently near Green Bay, Wis. While climbing a high-power line pole he was struck directly on the top of his safety helmet with a wire grip which had fallen 25 feet. The hard hat protected him from a possible fatal injury.

The slogan of the Turtle Club is "Shell on Head—We're Not Dead."

The photo above shows E. W. Bullard, international sponsor of the Turtle Club and president of E. D. Bullard Company (second from left), presenting the 1,000th membership certificate to Mr. Schwartz. Looking on are George McDonald, senior engineer, National Safety Council (left) and Niles Hamilton, safety supervisor, Wisconsin Public Service Corporation (far right).

be desirable to initiate a program on how to properly instruct workers on the job.

Comparison of severity figures and other accident-cause statistics was important in getting one of the major bicycle manufacturers in the country to set up safety controls for his power press operations.

This company had many power presses for stamping, punching, and forming the various parts for bicycles. Having no guards or protective devices of any type on the presses, they almost needed a man going around full-time sweeping up fingers.

By the use of comparative statistics on accident causes and costs, they were convinced they had a problem—that they should do something about it. In this way an abominable situation was cleared up.

*A safety man can use accident-cause statistics to justify his being in business.*

An objective evaluation of the progress of a safety program can be made by noting in continuing analyses the effect of different safety measures, education techniques and other methods adopted to prevent injuries.

If it is not possible to show progress on a problem he can show where more money and time is needed in order to do an effective job.

More safety people, I'm sorry to say, know how to collect statistics than know how to use them.

*Accident-cause statistics can be used effectively in reports to management.*

A safety director was preparing his yearly report to management when his brother-in-law, an advertising executive, dropped in.

As they discussed what he was doing, the safety man remarked that he thought his boss never read the reports, since he never said anything about them.

The advertising man took the figures and dressed up the report, as any good advertising man would do. As a result, the safety

—*To page 94*


# Scott Air-Paks

## *Cut Repair and Maintenance Costs, Safely!*

## 200 MAN HOURS SAVED

### in busy production Schedule

• If the conveyor in your paint drying oven jammed would it mean shutting down the oven for 24 hours to let it cool and result in sending 20 employees home? Or could you do as this progressive company did—equip a man with a Scott Air-Pak and asbestos suit and get him into the oven at 320° to make the repair in 10 minutes? A similar, costly interruption *could* happen in *your* plant tomorrow! 200 Man Hours is a lot of time to lose in a busy production program. Better take steps now to get on that 10 minute schedule!

*On Hazardous Jobs Scott Air-Paks Help Management and Labor Breathe Easier*

Write for free booklet "Scott Air-Paks Save Money, Man Hours and Men for Industry." We'll be pleased to send you a copy.

Scott
FOR SAFETY—FOR SERVICE

SAFETY EQUIPMENT DIVISION

**SCOTT AVIATION CORP.**

**211 ERIE STREET** **LANCASTER, N. Y.**

Canada: Safety Supply Co., Toronto — Branches in principal cities
Export: Southern Oxygen Co., 15 West 57th Street, New York 19, N. Y.

Ned H. Dearborn, president, National Safety Council (left), and Robert A. Walterschied, chief, ground safety, Far East Air Force, Tokyo, land at Guam, Marianas Islands.

Gen. Earle E. Partridge, then Commander of the Far East Air Forces, receives Award of Honor from President Dearborn in Tokyo.

# Safety Mission Accomplished

**Wherever the various commands of the United States Air Force have established bases, energetic and effective safety programs have been put in operation. These have been valuable to the civilian populations as well as to the U. S. military personnel**

By NED H. DEARBORN

THE SAFETY ACHIEVEMENTS of the United States Air Force in its global operations are a matter of record. Statistics tell the story of accidental deaths and injuries prevented, strengthening an important protector of the free world and preventing a heavy waste of manpower and dollars, as well as the emotional satisfaction of protecting people as individuals.

The entire Air Force, as a unit, has won the National Safety Council's Award of Honor for the past five successive years. The Far East Air Forces has won it three times during that period. Considering the distances and the number of bases in that vast area, the achievement is highly praiseworthy.

Over the years I have read with interest the reports of safety progress in the Air Force and it has been my privilege to present awards to various units. But I must confess that I did not realize the full significance of these accomplishments until last spring when I visited bases of the Far East Air Forces on a trip lasting five and a half weeks, covering 23,000 miles in military planes.

Air bases were visited in Japan, Okinawa, the Philippines, Guam, and the Hawaiian Islands. We also made a side trip to Hong Kong to inspect the clothing and jewelry shops—at my own expense.

The value of this widespread safety activity to our own country has been immense but it does not end there. Its influence on the people of the Orient has been far-reaching. Japanese industrialists and public officials have been eager to learn about our accident prevention methods and our Air Force personnel have been glad to help. Safety, as we have seen so often in these post-war years, is a bond uniting men of all nations.

Heading the safety work of the USAF in Washington, D.C., is Col.

—*To page 91*

*Here is why*

# YOU CAN DEPEND UPON LOWERY SLINGS

THIS cross section of Lowery Brothers swaged hemp core wire rope slings shows how the steel (not aluminum) flows in between the helox of the wire rope. This forms a solid mass of steel incorporating fittings made from 1020 seamless tubing of the highest quality.

To assure our customers the utmost safety and performance, the wire rope used in our swaged sling eyes or loops is unlaid, then formed into a loop and laid back together in the same manner. Since we do not rely on the swaged fitting alone but use a flemish eye, we produce one of the safest slings utilizing pressed-on fittings which cover all our wire ends.

*Actual unretouched photograph of cross-section view of Lowery swages.*

We have tested a half-inch 6 x 19 I.W.R.C. with a 15″ eye at each end, but without a metal fitting or any other fastener. This was pulled to 27,300 pounds before four strands and the wire center parted. Many similar tests have proved that Lowery Brothers swaged wire rope slings are far superior than slings using just a turned eye and an aluminum fitting to support the load (a cracked fitting can cause injury or death to workers and often results in damage to the equipment being handled). Lowery Brothers will send you certified copies of tests made with our swaged slings.

(This actual photo of our newly designed swaged fitting shows the advantage of the longer tapered nose which easily passes under a load and can be retrieved without snagging or hooking.) Lowery construction permits far greater flexibility than hand spliced slings and produces a lighter and much easier handling sling.

We have a record of 95 per cent reduction in hand injuries through the use of our swaged slings over the obsolete hand splice sling which leaves protruding wire ends.

Due to our unique production methods and high quality materials, Lowery Brothers gives you a better wire rope sling at lower cost—most important of all, Lowery slings are SAFER!

We specialize with metal producers and feature a special metal producer price, plus immediate delivery from any of our three plants: New Orleans, Louisiana, Portland, Oregon, and our home office and plant in Chicago.

Our Mobile Display Van incorporating all types of swaged wire rope slings offers your key personnel an opportunity to appreciate the vast difference between Lowery Brothers and ordinary slings. You can arrange to see this free display without obligation, by simply writing our home office.

**LOWERY BROTHERS** 9332 SO. ANTHONY AVE., CHICAGO 17, ILL.

**CHICAGO • NEW ORLEANS • PORTLAND**

*DOW . . . industry's most complete line of chlorinated solvents*

# By all the standards you apply . . .

***Many users find*** CHLOROTHENE *spray a most effective technique for* ***removing oily residues.*** *Here a diesel locomotive electrical cabinet gets thorough degreasing, with particular attention to voltage regulators and relay switches. Arc arrestors were taken out to allow closer rinsing.*

DOW

# CHLOROTHENE

## is the maximum safety choice wherever cold solvents are used

By now, your production people have probably asked you about CHLOROTHENE†. Almost *anyone* responsible for cleaning metals or electrical equipment wants to check on this remarkably efficient cold degreasing solvent.

Let's start with *your* questions. CHLOROTHENE is properly Dow 1,1,1-Trichloroethane, Inhibited . . . and it's *exclusive* with Dow. It's a *lower toxicity* solvent, with an M. A. C. rating (500 ppm.) 2½ times greater than that of trichloroethylene and 20 times greater than carbon tetrachloride's. CHLOROTHENE *lessens fire hazard;* has no flash or fire point by Cleveland Open Cup Methods . . . it is certificated* for use as a ships' stores article by the U. S. Coast Guard. And all experience indicates that CHLOROTHENE presents no practical hazard in normal use from the standpoint of skin absorption or other topical contact.

That's the brief story of superior safety factors. With these, CHLOROTHENE has very high solvent power, yet gives extremely low corrosive effects when used on all common metals and alloys.

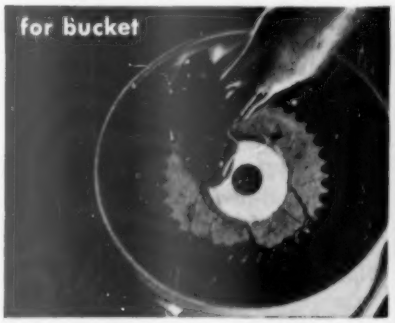
Your Dow distributor can supply CHLOROTHENE immediately. He also meets your needs for *other* stabilized chlorinated solvents: DOW TRICHLOROETHYLENE, DOW PERCHLOROETHYLENE and DOW METHYLENE CHLORIDE. For detailed technical information on any or all of these outstandingly effective solvents, just mail the coupon below to THE DOW CHEMICAL COMPANY, Midland, Michigan.

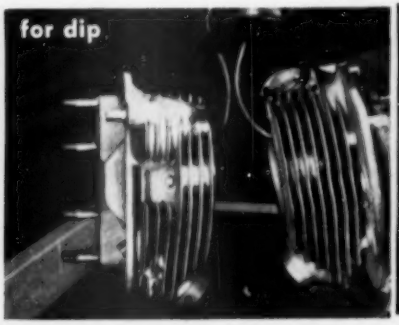
*203 *26 April, 1955*

*Certificated for use as an article of stores on board vessels. This certificate covers only hazard in the use of this product. The efficiency of this product is not passed upon. U. S. Coast Guard.*

†Trademark

## *efficiently versatile, too!*



*send for information today*

THE DOW CHEMICAL COMPANY, Dept. S-674E-1, Midland, Michigan

Send me further information on _____. My particular interest is cleaning _____.

Name _____ Title _____

Company _____ Address _____

City _____ Zone _____ State _____

*you can depend on DOW SOLVENTS* DOW

# Pageant of Products

## At the 1955 Safety Exposition

Marie Friedman models a pair of muff-type ear protectors.

←
Time was all too short to take in all the interesting exhibits in one week.

THE LARGEST and most comprehensive display of accident prevention equipment and related products yet assembled was on exhibit for those attending the 1955 Safety Exposition. There were 197 displays in all, filling the Exhibit Hall and Annex on the Conrad Hilton's lower lobby level, the mezzanine floor, the corridors adjoining the meeting rooms on the third floor, and the South Ballroom which in previous years had been used as a meeting room.

Supplying products for the prevention of accidents, protection against fire, first aid treatment of injuries, and maintenance of environmental and personal cleanliness has become big business. It has grown as industry and the public have become increasingly safety-minded.

Safety equipment includes a wide variety of items which maintain healthful and comfortable conditions in the workplace as well as those which offer protection against accidental injury and the effects of industrial poisons.

Personal protection continues to be the largest single group of equipment. Many items are for emergency use and others are for occasional brief exposures. Other equipment, like goggles and safety shoes, are now worn throughout the working shift.

The increasing use of toxic materials in industrial processes and the introduction of radioactive substances has stimulated development of personal protection and the control of hazards at the source.

The modern plant is cleaner and the numerous displays of equipment and supplies for housekeeping and sanitation account for much of the improvement. Among the products were floor machines, vacuum cleaners, oil and grease absorbents, detergents, germicides, and other products which aid in maintaining clean and healthful working conditions.

Closely associated with keeping the plant clean are the facilities for personal cleanliness. Washroom equipment, skin cleansers, protective creams and ointments, and products for the control of fungous infections of the feet were included in this group.

Prevention of falls, one of industry's perennial problems and topic of a subject session, was the purpose of many products. Slip-resistant flooring materials, coatings, and finishings of many types were shown. Attacking the problem from the personal angle, there was footwear with soles and heels of anti-slip materials.

For the prevention of falls from a higher level, one of the hazards of maintenance and construction work, there were ladders, sectional and portable scaffolds, and safety belts and harnesses.

Several types of machine guards, principally for power presses and circular saws were demonstrated. Guards of transparent plastic, which permit a clear view of the point of operation, and electronic guards are among the more recent developments in this field.

Material-handling equipment, which has multiplied the capacity of industry and removed many of the hazards of manual methods, was represented in the displays of wire rope, chains, slings, and accessories.

First aid and medical supplies for industrial needs ranging from small isolated groups to large plant hospitals. The trend in first aid supplies is toward unit dressings which keep supplies in sterile containers until used. The value of preparedness for the treatment of injuries has been brought home to many industries in regions vis-

ited by disaster as well as by the needs of Civil Defense.

Also valuable for both disaster and protection against less spectacular hazards are adequate organization and equipment for preventing and fighting fire. Exhibits featured detection devices and equipment for the handling and storage of flammable and explosive materials.

With the introduction of improved methods of manual resuscitation in recent years there has also been improvements in mechanical devices for artificial respiration and widespread acceptance of their uses. Several models were shown.

The human element was not overlooked in the exhibits. Warning and instruction signs, visual training aids, literature, awards, and incentives were among the important items for safety training and promotion that were on display.

In addition to the commercial exhibits there were displays by such organizations as the American Medical Association, the National Bureau of Standards, and the National Society for the Prevention of Blindness.

National Safety Council Services and publications provided a colorful and comprehensive series of displays in a central location in the lower lobby. Members of the Council's staff were on hand to help members in obtaining technical and program material, training aids, and safety incentives.

The following list of exhibitors and products will give some idea of the scope of safety equipment and the 1955 Exposition:

## EXHIBITORS AND PRODUCTS

Acme Protection Equipment Co.—Respiratory protective equipment.

Admatic Corp.—Automatic slide projectors.

Advance Glove Manufacturing Co.—Work gloves.

Aetna Casualty and Surety Co.—Safety educational aids and driver training and testing equipment.

Akron Brass Manufacturing Co.—Fire hose nozzles and accessories.

Alan Wood Steel Co.—Abrasive rolled steel floor plates.

American Abrasive Metals Co.—Anti-slip floorings, treads, door saddles and floor coatings.

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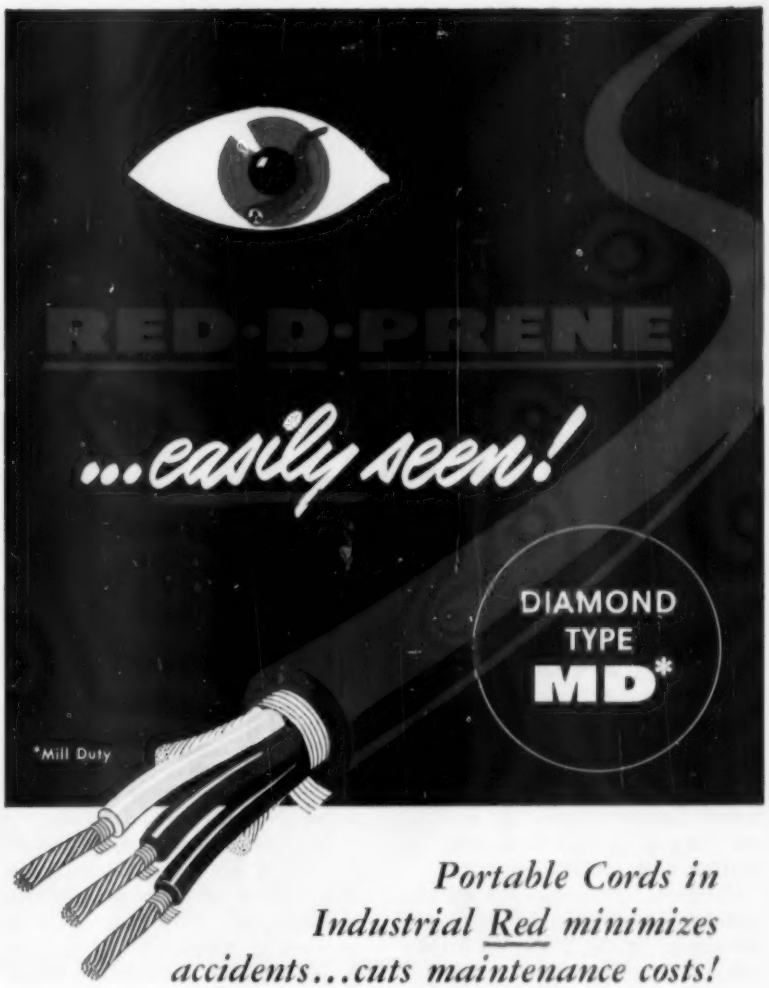
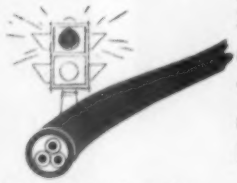



*Portable Cords in Industrial Red minimizes accidents...cuts maintenance costs!*

No flat sides, no off center conditions. Gives maximum flexibility, is moisture resistant.



Industrial Red sheath provides maximum visibility for absolute identification.

For positive identification — in your stockroom or inside and outside the plant by maintenance men—Type MD RED-D-PRENE is your safe choice! First designed with a tough, oil-resistant Neoprene sheath (in Industrial Red). Assures long wear, materially reduces maintenance costs. Carries current where you want it, safely and at lower cost. Outstanding for heavy duty use in Mill and Plant installations.

*Without delay : : : write for our new descriptive brochure and samples!*

Trade Mark

**DIAMOND WIRE & CABLE CO.**

SYCAMORE, ILLINOIS

Ned H. Dearborn, president, National Safety Council, delivered the keynote address over the CBS radio network.

Department and division directors line up for special announcements on WMAQ. Left to right, Arnold H. Vey, Traffic and Transportation; Alice C. Mills, Women's Activities; Paul Jones, Public Information; Wayne P. Hughes, School and College; Paul Hill, Field Service; Maynard Coe, Farm; David Arm, Industrial.

# Telling The World About The Congress

KEEPING the public informed about the 43rd National Safety Congress was a job involving hundreds of thousands of written and spoken words.

Congress coverage started six months ago with news releases developed by the Council's Public Information Department and culminated during Congress week with radio and television appearances by President Ned H. Dearborn, Executive Vice-President George C. Stewart, and eight division and department managers from the Council.

The steady barrage of news releases which flowed from the home office in the months preceding the Congress included more than 100 on speakers at industrial sessions and found wide coverage in newspapers, wire services, house organs, consumer magazines, and trade journals and on radio and television.

At the Conrad Hilton Hotel 29 trade journal correspondents registered to cover the world's biggest safety show. Newspapers from as far away as Montreal sent reporters. The three major press associations each moved more than 1,000 words a day. Chicago newspapers alone ran 724 column inches of Congress news.

Radio and television advertisers, many of whom are Council members, participated in 80 network and 17 local salutes, mentions, or broadcasts. Counting the Advertising Council's 40 network allocations, the 43rd Congress was mentioned on 120 network radio and TV programs.

Special mentions by local radio stations throughout the country numbered 1,094. In addition, many radio stations and networks featured news coming out of the Congress day by day.

Wide use was made of the Congress theme—"Be Your Brother's Keeper . . . Stop Accidents!"

David Arm (left), manager of National Safety Council Industrial Department, was interviewed by John Chancellor for "Monitor," NBC's week-end news and entertainment program.

George C. Stewart, executive vice-president, National Safety Council, was guest of Rosemary O'Brien as "Executive of the Week" on her WBBM program.

# Stonehouse SIGNS

## FOR INDUSTRIAL ACCIDENT PREVENTION

THE safe worker really looks and acts it. He comes to the job with a feeling of security —and the standard of his work shows it.

The promotion of safety by Industry is a great accomplishment. It pays not only in safeguarding life and limb, but in higher morale, improved skills, better production.

### STONEHOUSE SIGNS

Workers respond to safe conditions when guided by proper warnings and instructions. Keep telling them—with Stonehouse Signs that inform them of hazards and dangers. This is true accident prevention.

*Write for our complete Catalog— 64 pages, in full color. It's free.*

Stonehouse

**SIGNS, inc. MANUFACTURERS • Stonehouse Bldg., 9th at Larimer**
**Denver 4, Colorado**

*"Signs Since 1863"*

ACCIDENT PREVENTION • *steel* SIGNS IN STANDARD COLORS AND DESIGNS

# Pageant of Products

*—From page 51*

A safety shoe in a cake of ice and a guessing contest provided an eye-catcher at this booth.

Left: Mr. and Mrs. Charles Clousnitzer test their driving skill under simulated traffic conditions.

**American Allsafe Co.** — Industrial safety equipment.

**American Biltrite Rubber Co.**—Rubber and neoprene safety soles.

**American Chain and Cable Co.**—Wire rope and chain slings and fittings.

**American LaFrance Foamite Corp.**—Fire extinguishing systems, trucks and portable equipment.

**American Optical Co.**—Head, eye and respiratory protective equipment, safety clothing and safety specialty products.

**Ampco Metal Co.** — Non-sparking corrosion-resistant tools.

**Ansul Chemical Co.**—Dry chemical fire extinguishing equipment.

**Arcadia Manufacturing Co.**—Plastic-coated work gloves and aprons.

**Associated Suppliers Co.** — Automobile safety belts.

**Audivox, Inc.** — Hearing aids and hearing testing equipment.

**Award Incentives, Inc.** — Incentive award programs, plaques and trophies.

**Ayerst Laboratories**—Protective hand creams.

**Bashlin, W. M., Co.**—Linemen's and industrial safety equipment.

**Bausch & Lomb Optical Co.**—Safety goggles and vision testing equipment.

**Beryllium Corp.**—Non-sparking tools.

**Best, Alfred M., Co.**—Safety publications.

**Bethlehem Steel Co.** — Wire rope slings and accessories.

*—To page 70*

One of the three exhibits offering audiometric tests. Hearing conservation is of widespread interest.

No, the lady isn't going to be fed to a buzz saw. She's demonstrating equipment for moving the injured.

# THE SKIN CONDITIONING ACTION OF

# PAX-LANO-SAV® HEAVY DUTY

## GRANULATED SKIN CLEANSER MAKES WORKERS HANDS SMOOTHER, SOFTER AND EASIER TO CLEAN . . . PROGRESSIVELY DAY AFTER DAY UNTIL THEY ARE IN REALLY GOOD WORK-USE CONDITION

This is the reason why, over a period of time, it takes less and less skin cleanser to clean dirty hands. This is just one of the economies . . . through quality . . . that makes **Pax-Lano-Sav Heavy Duty** the lowest cost of all granulated or powdered skin cleansers, in actual use. . . . Just one of the reasons why the use of **Pax-Lano-Sav Heavy Duty** in industrial plants far exceeds all other powdered and granulated skin cleansers for the use of both men and women industrial workers. Once used, workers ask for and demand it!

RESEARCH - PROGRESS integrity PAX VALUE - SERVICE

### LOOK for the PAX ROOSTER

This famous SEAL and Rooster TRADEMARK on each PAX product you purchase is your guarantee that it has been PRE-TESTED and conforms to the PAX deep-rooted rich tradition of RESEARCH and MERIT, assuring you of the greatest degree of PROGRESS, VALUE and SERVICE in every price range.

The PAX reputation for INTEGRITY is backed by over thirty years of pacesetting RESEARCH and MANUFACTURING SKILL.

## OVER 72 MILLION HANDS ARE WASHED EVERY DAY WITH PAX GRANULATED SKIN CLEANSERS

*Write Today!*

Ask for a side-by-side comparison TEST in your own plant using PAX-LANO-SAV HEAVY DUTY and your present brand of granulated skin cleanser.

Find out why it costs LESS for the very BEST . . . the skin cleanser with the thirty-year-plus record of safety.

SS-L

**G. H. PACKWOOD MANUFACTURING CO.**

*Manufacturing Chemists*

1553 TOWER GROVE AVE. • ST. LOUIS 10, MO.

# THE SAFETY LIBRARY

Books, Pamphlets and Periodicals of Interest to Safety Men

*Compiled by Ruth Parks, Librarian, NSC*

## Fluoridation

*Fluoridation as a Public Health Measure*, edited by James H. Shaw. Published by the American Association for the Advancement of Science, 1515 Massachusetts Ave., N.W., Washington 5, D.C. V & 232 pages, $4.50, 1954.

THIS VOLUME is the third AAAS monograph on the public health aspects of the ingestion of fluorides. It is very interesting that the first of the series, published in 1941 was concerned almost exclusively with the toxicity of fluorides ingested from the water supply and particularly with the conditions under which mottled enamel would be produced in the teeth of children using the water during the years when the teeth were being formed.

The second, published in 1945, was concerned with the reduction in tooth decay which results from the consumption of a controlled amount of fluorides. And the present volume is the completion of the circle. It is concerned mainly with the positive benefits to be gained by the controlled ingestion of fluorides and with the practical measures to be taken to assure the ingestion of as nearly as possible the optimum amount.

The monograph is the result of two symposia on the subject, held at the AAAS annual meetings of 1952 and 1953 with the addition of some papers on aspects of the subject which were not considered in the original symposia. The result is a quite complete picture of the present knowledge of the metabolic effects of fluorides.

The practise of adding fluorides to water supplies has now been carried on long enough that ten-year studies have been carried out upon large groups of children exposed to the fluoridated water. As controls groups of similar size and composition in nearby towns where the water supply is deficient in fluorides have been followed by the same tests by the same groups of investigators. These results, as well as some on groups exposed to excessive fluoride, are set out in considerable detail.

The chapter on the metabolism of inorganic fluorides and the discussion of possible media for administration of fluorides other than water also seem to be particularly valuable.

F. A. VAN ATTA.

## BOOKS AND PAMPHLETS

### Aeronautics

*Procedure for "Inerting" Aircraft Fuel Tanks.* National Fire Protection Association, 60 Batterymarch St., Boston 10. 1955—Tentatively adopted. 12 p. NFPA 405-TR, 25c.

### Elevators

*American Standard Safety Code for Elevators, Dumbwaiters, and Escalators.* American Society of Mechanical Engineers, 29 West 39th St., New York 18. 1955 Revision, 290 p. A17-1-1955, $3.50 paper; $4.00 cloth.

### Fire Protection

*Approved Equipment for Industrial Fire Protection.* Factory Mutual Engineering Division, 1151 Boston-Providence Turnpike, Norwood, Mass., 1955, 180 p. $2.00.

*The Mechanism of Extinguishment of Fire by Finely Divided Water.* National Board of Fire Underwriters, 85 John St., New York 38. 1955, 73 p. NFBN Research Report No. 10. Free.

*National Fire Codes.* National Fire Protection Association, 60 Batterymarch St., Boston 10. 1955 ed. 6 vol. $6.00 each.

V 1. *Flammable Liquids and Gases.*
V 2. *Combustible Solids, Dusts, Chemicals, and Explosives.*
V 3. *Building Construction and Equipment.*
V 4. *Extinguishing Equipment.*
V 5. *Electrical.*
V 6. *Transportation.*

### Flammable Liquids

*Flammable Liquids Pumping and Piping Systems.* Factory Mutual Engineering Division, 1151 Boston-Providence Turnpike, Norwood, Mass., 1955, 14 p. Loss Prevention Bulletin No. 13.21. 25c.

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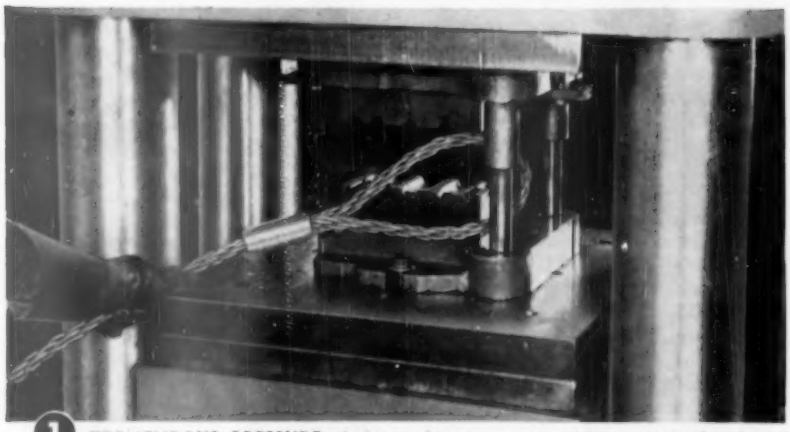
# Tuffy® SLING NEWS

Vol. 1 — Published Monthly in Leading American Trade Magazines by Union Wire Rope Corp. — No. 2


# NEW Tuffy® FERRULE GIVES EYE SPLICE STRENGTH OF Tuffy® SLING FABRIC



1 **TREMENDOUS PRESSURE** of this machine in swaging Tuffy's smooth-edged metal ferrule around the tuck splice virtually flows the metal into the braided fabric interstices.

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In the most important sling development since Tuffy machine braided wire was introduced, Tuffy now offers sling users greater safety, faster sling handling, and more sling-eye strength—at no increase in price.

It's all made possible by a new steel ferrule used on all Tuffy Slings. This ferrule, slipped over the splice of the eye and pressed on under great pressure, holds so tight that it gives the eye of the sling 100 per cent of the strength of the machine braided wire fabric. The tucked-in splice is completely covered—the swaged ends of the ferrule leave no abrupt edges to catch on loads or to injure workers' hands.

Teamed up with the Tuffy machine braided sling fabric, this new ferrule makes Tuffy the sling handler's favorite for every job.

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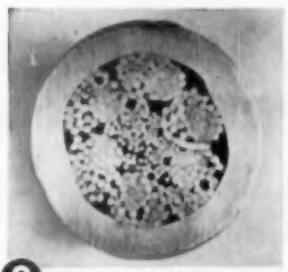

2 The force of friction set up by compressing the ferrule metal on more of the wire fabric surface forms an eye that really stays spliced.

## New Tuffy Sling Handbook FREE — Mail Coupon Now

This big 60-page book tells you all about new factory-fitted Tuffy Slings with our pressed-on ferrule and contains complete information about a full line of factory-fitted Tuffy Slings, nearly a dozen new standard fittings, and complete data and charts on all Tuffy Slings. It also has a brand-new engineer's notebook and a valuable rigger's manual. Send for your copy now. No obligation.

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### Ceramic Industry

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LOW TOXICITY

# VYTHENE* PROTECTS YOUR EMPLOYEES!

Poor Pete sums up the plight of the employee whose company is behind the times in the choice of a solvent for cleaning such items as aircraft parts and electronic equipment, electric motors, machinery, office and plant equipment. Pete still uses Carbon Tetrachloride and sundry other agents. He improvised this fantastic uniform to protect his health but it keeps getting in his way. Still, it's better than being permanently disabled *or worse* by Carbon Tet.

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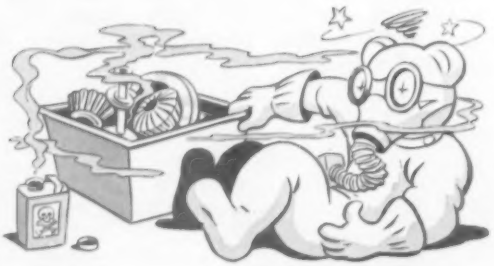

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Joe's company has switched to VYTHENE—*a Stabilized* 1,1,1-Trichloroethane. Up go morale and efficiency. Down goes the accident rate. VYTHENE's low toxicity is approx. 1/20th that of Carbon Tet, approx. 1/5th that of Trichloroethylene. Versatile VYTHENE has *now been stabilized for solvent vapor degreasing, too.* Joe's firm is getting *a premium safety solvent without the premium price tag.*

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**Noise**

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**Showers**

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## Announce Chairmen for New York Convention

CHAIRMEN for the seven major committees for New York's 26th annual Safety Convention and Exposition have been announced by William C. Crager, general chairman for the event to be held at the Hotel Statler for five days starting April 16, 1956. They are:

Harry W. Beyerman, safety engineer, Employers Mutual Liability Insurance Company, arrangements.

Lawrence C. Woodbridge, superintendent of safety, New York City division, Socony Mobil Oil Company, attendance.

Robert M. Edmiston, regional safety products manager, American Optical Company, dinner.

Edward A. Fullarton, senior engineer, The Travelers Insurance Company, exhibit.

Carl C. Clements, director of safety, National Dairy Products Corporation, finance.

Lewis R. Morrison, district safety director, Lumbermens Mutual Casualty Company, program.

Harry E. Flink, national engineering manager, Atwell, Vogel & Sterling, Inc., publicity.

Previously appointed as general vice-chairman were James L. Devine of Carle Place, L.I., and Carl F. Olander of Dumont, N.J.

The convention, which brings more than 11,000 accident prevention workers to New York from all over the country, is sponsored by the Greater New York Safety Council.


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RUBBER - NEOPRENE - PLASTIC COATED INDUSTRIAL GLOVES

The house was completely wrecked and the cars severely damaged by the atomic blast. However, the mobile radio came through undamaged and immediate contact was made with the base station.

Civil Defense rescue crews use "handie-talkie" portable radiophones while evaluating effects of blast. (Photos by Motorola)

# Atomic Blast Wrecks Houses But Radios Survive

THE VITAL LIFELINE of radio communications will survive an atomic attack, declare observers of "Operation Cue," the civil defense phase of the May 5 atomic detonation at the Atomic Energy Commission's Nevada Test site.

Two-way radio equipment stood up under terrific heat, pressure, and shock—even demolition of brick buildings—and continued to function perfectly, reports Carl G. Tinsley of Motorola, Inc.

The experiments took place under auspices of the Federal Civil Defense Administration to learn how well two-way mobile radio systems could withstand an enemy's atomic assault. Participants included member companies of the Radio-Electronics-Television Manufacturers Association.

Particularly notable was the durability of a transmitter-receiver in an automobile at 4,700 feet from ground zero. Reports Tinsley: "The car had all windows knocked out, roof caved in, trunk lid blown into a vertical position and the paint blistered. Radio was undamaged, however, and immediate contact was made with the base station. No repairs necessary."

Radios were placed at 4,700 feet and 10,500 feet from the center of the blast. Identical equipment was tested at both positions.

At the two-mile distance, the Motorola 30-watt table-top base station and the "Handie-Talkie" portable radiophone in the bedroom of the test building were unscratched, although the room was showered with broken window glass.

Near by, the two associated test antennas—a Triple-Skirt coaxial radiator and an Isoplane quarter-wave vertical with dual ground plane and isolating elements—stood the blast without harm. Communication was possible immediately when electric power was restored.

A radio-equipped 1950 auto was damaged slightly at the two-mile range.

At the .9-mile line the effects of the blast were much more noticeable. Here the base station and the battery-powered portable radiophone were tested in the basement of a two-story brick building, with test antennas mounted on an unguyed tower 150 feet away.

The nuclear explosion completely collapsed the building; however, the first floor did not fall in, and the radio station itself was not damaged. Test antennas were lost when the tower snapped off 40 feet above ground, breaking the antenna transmission cable. A temporary antenna in the basement was connected for test performance and showed the radio station to be in excellent working order.

Results of the atomic test program were hailed by communication specialists as demonstrating the rugged design of modern two-way radio equipment. Thousands of units similiar to those tested are now in use by fire and police departments, railroads, taxicabs, power utility companies and industries in every sector of this country and Canada. Reliability of communications is considered extremely important to Civil Defense in case of disaster or enemy attack.

---

Keep your fears to yourself, but share your courage with others.

**Moccasin-toe Jaguar** (S-4376). New, low-cut, three-eyelet model with swept-back moccasin toe. In tan. Storm welt. Leather sole. Rubber heel. Leather-lined steel toe box.

# A new Jaguar joins Thom McAn's sporty line of safety shoes!

YOU WOULD never believe that these smartly styled Jaguars were safety shoes—unless you took a swing at their toes!

The racy lines of these new Thom McAns conceal the rugged strength of steel toe boxes—leather-lined to protect socks and feet from chafing. *These shoes are tough*. Yet their modern design takes the strain out of standing work. Your men get dress-weight *comfort* and after-hours *styling* as well as safety on the job.

And that's not all! You also get Thom McAn's traditional top quality, long-wearing leather and rugged construction in these new safety shoes. All, of course, at Thom McAn's famous money-saving price. Take a good look. You'll see for yourself why Thom McAn's so good it's the best-selling shoe in *all* America.

**SOLD TWO WAYS: 1.** At Thom McAn Stores. **2.** Direct to your plant. Send today for details of our money-saving plant-sale plan and Thom McAn's 4-way employee purchase plan—plus descriptions of the Thom McAn Safety Shoe line. Write: Thom McAn Safety Division, 25 W. 43rd St., N. Y. 36, N. Y.

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Thom McAn
SAFETY SHOES
A Division of the Melville Shoe Corporation

# Company-Wide Safety Day Marks Award Presentations

Two-hundred and twenty years of accident-free service were compiled by Republic Steel's four safest workmen honored at special Safety Day ceremonies. Left to right: J. B. Goyette; Edward Ducharme; Adam Kaminski, and James Skrdla.

CELEBRATING 1954 as the safest year in the history of Republic Steel Corporation, President C. M. White proclaimed October 13 as "Safety Day" throughout the corporation's mills and mines.

High point of the celebration was the winning of the National Safety Council's Award of Honor for the entire organization. Individual plants won more than two dozen awards for outstanding safety performance during the year. Special ceremonies were held at award-winning plants and at the general office in Cleveland.

Plans for appropriate celebration throughout the organization were worked out in detail and made months in advance of the day. Suggested outlines were sent to the various plants with material to help in planning programs and for newspaper publicity.

Local celebrations at award-winning plants were planned around the presentation of the award by a prominent local official—civic, safety or perhaps ministerial—to the plant employee having the longest tenure of service without a disabling injury. It was recommended that the ceremony be brief and be attended by the plant and/or district or division manager, the official at the plant in charge of safety, the worker's superintendent, foreman and immediate supervisor.

Right: Republic Steel's president, Charles M. White, receives National Safety Council's Award of Honor from Gen. George C. Stewart, executive vice-president of the Council.

Local newspaper releases were based on the theme, "Local plant helps Republic win top safety award."

Non-award-winning plants also held small, informal ceremonies centered around the employee selected as its "safe workman" for Safety Day. Following the program suggested by corporation headquarters, the plant manager made brief remarks concerning the significance of Safety Day and what took place at the general office and at award-winning plants. The message to employees was that although the plant had not won an award in 1954 its safety performance had nevertheless contributed to Republic's over-all record which had been recognized by the National Safety Council's top award.

On October 10, three days before the official Safety Day, special ceremonies were held at the general office in Cleveland in recognition of the company-wide Award of Honor. The ceremonies were attended by top Republic officials and members of the corporation's industrial relations department. Gen. George C. Stewart, executive vice-president of the Council, presented the plaque to C. M. White, Republic's president.

The part of individual employees in the safety achievements was recognized by the presence of four champion "safe workmen," one each from the steel districts, the manufacturing divisions, the iron mines and the coal mines.

The long-term safe workers honored on the occasion were: J. B. Goyette, Chicago steel worker, 53 years; Edward Ducharme, Adirondack iron miner, 58 years; Adam Kaminski, Pennsylvania coal miner, 53 years; James Skrdla, Cleveland manufacturing employee, 56 years.

Most of the awards were on display at the general office for the ceremonies on October 10. Immediately after, the display was dismantled and the awards rushed back to the individual plants for use in the local ceremonies.

# NOW! Brand-New Extinguishers Make Kidde Line Most Complete!

**Efficient, dependable and superior in design, the new *expanded* line of Kidde extinguishers now makes it easier for you to choose the *right* extinguisher for every fire hazard!**

1. **Water and anti-freeze.** Now available either air-pressurized or cartridge-operated, in either brass or stainless steel, 2½ gallon capacity.

2. **Pump tanks.** 2½ and 5-gallon sizes, in either galvanized or polished copper tank. Removable all-brass double-action pump throws 40-foot stream.

3. **Dry chemical.** Air-pressurized in 5 or 10-pound capacities, cartridge-operated in either 20 or 30-pound portables. 150-pound capacity wheeled unit for large hazards.

4. **Carbon dioxide.** Portables in 2½, 5, 10, 15 and 20-pound capacities, in either trigger or squeeze-valve models. Also wheeled units in single-cylinder capacities of 50, 75 and 100 pounds.

5. **Vaporizing liquid.** CTC or CBM, pump or air pressure operation with seamless drawn brass shell. Pump capacities 1 to 1½ quarts, pressurized capacities 1 and 1½ quart or 1 gallon.

6. **Foam and soda-acid.** Seamless drawn brass or stainless steel shell, in 2½ gallon size. Also available: 40-gallon soda-acid and foam wheeled units.

**For more information on these and other extinguishers in Kidde's new expanded line, write today for the new Kidde P-8 catalog.**

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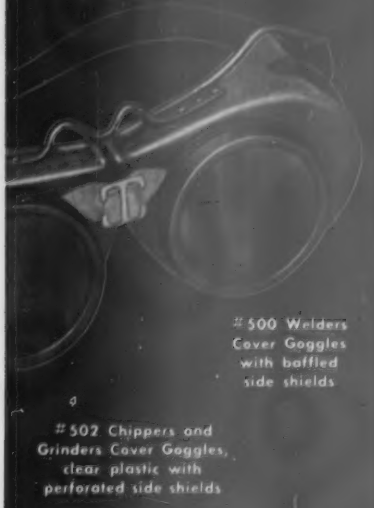

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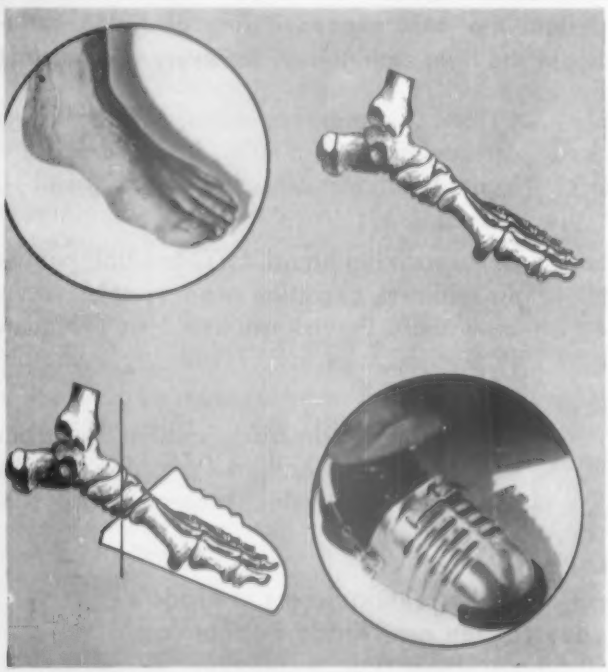

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Why not protect all of them with SANKEY foot guards.

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## See New Hope for Handicapped Children

REDUCTION OF MORTALITY at the younger ages as a result of the control established over the infectious diseases makes it possible to focus greater attention upon the care and rehabilitation of the large number of children and young people in the United States who are physically or mentally impaired, according to statisticians of the Metropolitan Life Insurance Company.

Orthopedic impairments are among the most common defects at ages under 21, with the more seriously crippled cases probably numbering about 500,000. The largest single category consists of those suffering residual effects from poliomyelitis, with clubfoot ranking second, and crippling due to accidents third.

Other major causes of physical impairment at these ages include heart disease, chiefly of rheumatic origin, cerebral palsy, and epilepsy, and defects in vision and hearing, each adding considerably to the total of impaired young lives.

In addition to those physically handicapped, it is pointed out, many children and adolescents have personality defects or mental disorders that are a threat to their future life and happiness.

Thanks to the advances in medicine, surgery, and methods of rehabilitation, according to the statisticians, many of these young people affected by physical and mental impairments can overcome their handicaps, at least in some degree. Another encouraging aspect is the emphasis being placed on the prevention of various disabilities.

"There is definite need, however, for intensification and expansion of effort in many directions and for broad research into the factors causing some of the impairments," the statisticians declare. "The rapid growth of the child population in recent years adds urgency to the situation."

---

Vacations are great levelers. The person who takes one returns home just as broke as the person who stayed home because he couldn't afford to go away.

# WHAT'S NEW IN NATIONAL SAFETY COUNCIL SERVICES

## Operation Safety

More people are killed in traffic accidents on Christmas Eve than on any other day in the year!

This appalling fact is the keynote of the Operation Safety kit for December. Designed to be used as a follow-up and continuing program of traffic safety education of the December 1 S-D Day campaign, this kit contains complete program materials for organizing community drives against the increased traffic hazards characteristic of the holiday season when speed, drunk driving, bad weather conditions, poor visibility, and the heedless attitude of both motorists and pedestrians precipitate an alarming number of traffic fatalities.

With its major emphasis on drunk driving, the December kit contains project ideas and program suggestions for alerting the general public to holiday traffic hazards and indoctrinating them in safety know-how in driving and walking.

With winter reaching its peak over most of the country in January, the main theme of the Operation Safety kit for that month is "Winter Hazards."

Besides the usual factors operating in traffic hazards, the bad weather conditions of winter make driving and walking particularly dangerous. To cope with the many problems of winter driving, the motorist has to "winterize" his driving habits—to learn to handle the problems of poor traction, reduced visibility, skidding, and unpredictable temperature changes.

The January kit includes materials for organizing a community drive against winter traffic hazards. An added feature is a complete report of the tests conducted by the National Safety

Council Committee on Winter Driving Hazards to determine the effectiveness of tire chains, snow tires, and improved techniques of vehicle control on snow and ice.

The kit also contains a new gimmick in safety education—an actual recording of a jazzy new song, "Please Take Care of Yourself," whose lyrics point up traffic safety rules.

For those states with milder climates, the January kit includes a special program guide on traffic signs and signals.

The materials in both the December and January kits consist of a planning guide for program ideas and projects, complete statistics and facts on traffic fatalities, radio scripts, and newspaper releases, and samples of posters and leaflets built around the monthly safety theme.

For further information about the Operation Safety program, write to Bob Shinn, Director, Operation Safety, National Safety Council, 425 N. Michigan Ave., Chicago 11.

## Health Booklet

*Fit as a Fiddle* is the title of the Council's new 16-page booklet of hints on how to stay physically fit.

Published in cooperation with the Council on Industrial Health of the American Medical Association, *Fit as a Fiddle* emphasizes the importance of adequate rest, nourishing diet, cleanliness, exercise, and good posture. It covers briefly the essentials of first aid for shock, burns, cuts, and abrasions and tells the proper care for eyes, teeth, and feet.

Two pages are devoted to hints on how to avoid the common cold as well as other seasonal problems such as sunburn and heat exhaustion. And last of all, the booklet stresses the importance of a relaxed attitude in the promotion of general good health.

*Fit as a Fiddle* is illustrated with attractive four-color drawings.

## Recent Technical Releases

Data Sheet No. D-353, *The Radial Saw.*

Data Sheet No. D-350, *Electromagnets Used With Crane Hoists.*

Data Sheet No. D-360, *Oxygen Lances.*

Detail Sheet No. 150, *Nip Guard for Ink Mill.*

Safety Reprint No. 55, *Skin Trouble is Plenty Trouble.*

Safety Reprint No. 56, *Safety and the Canning Industry.*

Safety Reprint No. 57, *Applied Engineering Principles Reduce Costly Accidents.*

Safety Reprint No. 59, *The A B C's of Electricity and Its Hazards.*

Safety Reprint No. 60, *Plant Enemy No. 1.*

Safety Reprint No. 61, *Time-at-Temperature Tube.*

Look to this page each month for latest news about NSC services. Address requests for additional information, samples or prices to the Membership Department.

# For a More Successful Poster Program

POSTER program aids miniatured on this and the following pages are NEW—shown here for the first time. Those illustrated in one color on the following two pages are actually printed in two or more colors.

For maximum variety, refer to the 1955 Directory of Occupational Safety Posters. There you'll find 744 top-notch selections on a great variety of subjects.

After January 1, please order from the new 1956 Directory.

JUMBO POSTER for FEBRUARY 1956

*The Jumbo poster, issued monthly, is designed for outdoor use and is available to members on annual subscription but is not stocked. Its actual size is 9' 11" by 11' 8".*

## SAFETY BANNER FOR FEBRUARY, 1956

**Here is the attention-getting, monthly cloth banner. Available in two types—indoor and outdoor—both are identical in size (10 feet long by 40 inches high), have the same general message and multi-color design. Indoor type is of sturdy drill with grommets for easy hanging, while the outdoor banner is of extra heavy drill, with wind vents, and has strong stitched-in rope for durability.**

NATIONAL SAFETY COUNCIL

0598-A 8½x11½

*This new four color poster is illustrative of the 72 four color posters shown in the 1955 Poster Directory.*

## Posters below are printed in two or more colors

*(Available only in sizes indicated)*

NATIONAL SAFETY COUNCIL

0664-C 25x38

NATIONAL SAFETY COUNCIL

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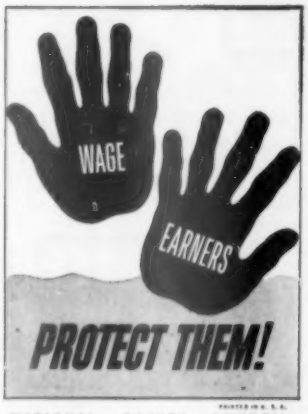
NATIONAL SAFETY COUNCIL

0554-A 8½x11½




NATIONAL SAFETY COUNCIL

0545-A 8½x11½

NATIONAL SAFETY COUNCIL

0476-A 8½x11½

NATIONAL SAFETY COUNCIL

0623-B 17x23

NATIONAL SAFETY COUNCIL

0621-B 17x23

NATIONAL SAFETY COUNCIL

0597-B 17x23

NATIONAL SAFETY COUNCIL

0495-A 8½x11½

**Electrotypes of payroll inserts can be furnished in all poster illustrations shown above.**

**Posters below are printed in two or more colors**

***(Available only in sizes indicated)***

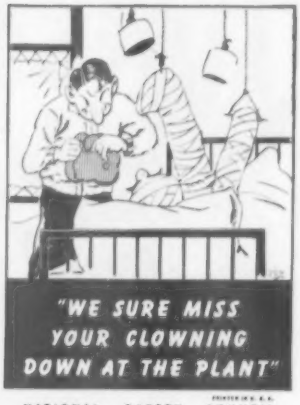
0520-A 8½x11½

0626-A 8½x11½

0619-A 8½x11½

0582-A 8½x11½

0655-A 8½x11½




0547-A 8½x11½

Sammy Safety says
YOU SURE NEED LOTS OF WATER QUICK FOR CHEMICAL SPLASHES!
THINK AHEAD FOR SAFETY!
NATIONAL SAFETY COUNCIL

0493-A 8½x11½

0577-B 17x23

V-0639-A 8½x11½

**Electrotypes of payroll inserts can be furnished in all poster illustrations shown above.**

## Atomic Ray Detector Adds to Safe Working Time

New wide-angle atomic ray detector is used to monitor radioactive material being removed from flatbed truck with caustic steam.

A NEW ATOMIC RAY detector developed by General Electric Company scientists at the Hanford Atomic Products Operation, Richland, Wash., overcomes disadvantages of conventional detectors by reacting equally to atomic rays from various directions.

On older detectors, rays coming directly at the reactor registered better than those coming from an angle, necessitating a safety factor in computing the time workers could spend in a radioactive area.

The new, wide-angle detector has expedited production at Hanford by increasing the working time that individuals can remain on a job, according to Dr. H. M. Parker, director of the G-E radiological sciences department.

The new instrument was developed by Dr. E. E. Donaldson and Dr. C. C. Gamertsfelder, G-E scientists. Hanford is operated by the General Electric Company for the Atomic Energy Commission.

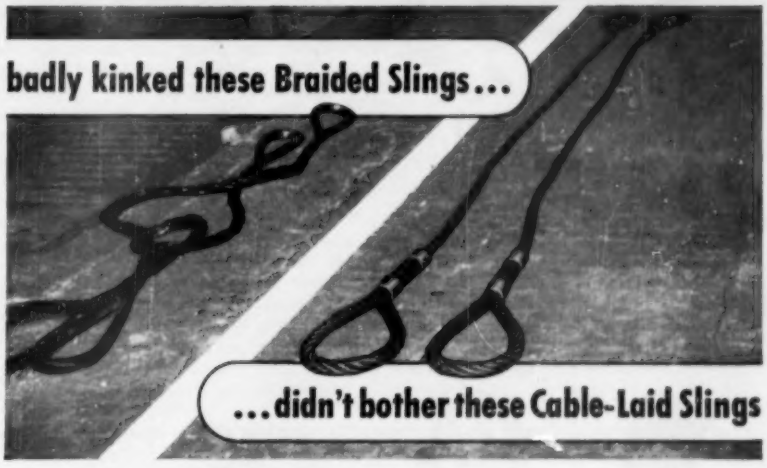
---

"No longer do you find vast storage structures around modern production factories. What they formerly stored is now riding toward them on the floor of tractor-trailer combinations, coming from miles away on precise time schedules."—Neil J. Curry, president, American Trucking Associations.


ACCO products

This 34-Ton Load...

badly kinked these Braided Slings...



...didn't bother these Cable-Laid Slings

Here's Why:

Because these ACCO *Registered* CABLE-LAID slings combine the flexibility of manila rope with the strength of steel.

The secret of the CABLE-LAID sling is in the construction of the rope. It's a combination of six wire ropes laid around a special steel center to give you a rugged steel body which has:

- Freedom from Crankiness
- Extreme Flexibility
- Resistance to Kinking

With their patented DUALOC endings these CABLE-LAID slings are tops in ease of handling . . . resist abuse . . . and give you longer sling life which reduces lifting costs. And these slings are ACCO *Registered*—with all the advantages that make this specification the standard of efficiency and safety.

*See your ACCO Registered distributor or write our Wilkes-Barre, Pa., office today*

ACCO

TRADE MARK

Wire Rope Sling Department
AMERICAN CHAIN & CABLE

Wilkes-Barre, Pa., Atlanta, Chicago, Denver, Houston, Los Angeles, New York, Odessa, Tex., Philadelphia, Pittsburgh, Portland, Ore., San Francisco, Bridgeport, Conn. • In Canada: Dominion Chain Co., Ltd., Niagara Falls, Ont.

for Better Value

**McDONALD PRODUCTS**
*Safety Designed...*
**with comfort in mind!**

*time for*
**McDonald zero hoods**

*for* **T-CAP** *or* **T-HAT**

**ZERO HOOD**—Head and ear style as shown in top photos or full head-ear-neck style as above. Really keeps cold out. 2 sizes, medium or large.

**WINTER LINING**—Makes the "T" hat comfortable in the coldest weather. Fleece-lined—easily interchangeable with regular headband.

*Write for information and prices*

**B·F·McDonald Co.**
Manufacturers & Distributors of
Industrial *Safety* Equipment
Safety FROM HEAD TO FOOT

**8721 WEST 96th ST., LOS ANGELES 45, CALIF.**
**Other Offices in San Francisco and Houston**

Please send information and prices on ZERO HOODS.

NAME _____

FIRM _____

ADDRESS _____

CITY _____ STATE _____

## Pageant of Products

*—From page 54*

Bil-Jax, Inc.—Tubular steel rolling and stationary scaffolds.

Bone Dry Shoe Manufacturing Co.—Outdoor safety footwear.

Bowman, George H., Jr.—Denim and acid-proof work aprons.

Brady, W. H., Co.—Self-sticking signs and warning stripes.

Breck, John H., Inc.—Skin cleansers, hair and scalp preparations.

Brett-Guard Co.—Transparent plexiglas guards for circular saws.

Bristol-Myers Products Div.—Pharmaceutical products.

Brossard, Lester L., Co.—Industrial traffic mirrors and traffic lane markers.

Browne, Stewart R., Manufacturing Co.—Explosion-proof inspection lights and grounding devices.

Brulin & Co.—Safety solvents, floor treatments, detergents, disinfectants.

Buhrke, R. H., Co.—Safety equipment and products for linemen, construction workers and general industrial use.

Bullard, E. D., Co.—Safety equipment for all industries.

Cambridge Book Co.—Books on automobile safety for schools and industry.

Cambridge Rubber Co., Vul-Cork Sole Div.—Cork and neoprene soles and heels.

Chance, A. B., Co.—Maintenance and line construction tools for hot line work.

Charleston Rubber Co.—Gloves, sleeves, aprons and other equipment for linemen and plant workers.

Chemical Corp.—Protective creams and waterless skin cleansers.

Chicago Eye Shield Co.—Head and eye protective equipment.

Chrysler Corp.—Safety progress in automobile construction.

Coca-Cola Co.—Beverages.

Columbus Glove Manufacturing Co.—Coated gloves and aprons.

Columbus McKinnon Chain Corp.—Alloy steel sling chains.

C-O-Two-Pyrene—Carbon dioxide and dry chemical extinguishers and systems, smoke detectors.

Cunningham, M. E., Co.—Safety marking tools.

Daisy Manufacturing Co.—Educational programs for air rifle shooters.

David's Gloves, Inc.—Work gloves.

Davis Emergency Equipment Co.—Respiratory protection, combustible gas indicators, general safety and first-aid equipment.

Detex Watchclock Corp.—Watchmen's clocks.

Diversey Corp.—Oil absorbents, multi-purpose cleaners.

Dockson Corp.—Head, eye and respiratory protection.

Dow Corning Corp.—Goggle and eye glass cleaning tissues and cleaning stations.

Dunn Products—Protective clothing, gloves, aprons and footwear.

Du Pont de Nemours & Co., E. I.—Flame retardants for fabrics and paper, slip-resistant floor wax, protective creams, neoprene products.

Eagle-Picher Co.—Oil and grease absorbents.

Edmont Manufacturing Co.—Coated fabric work gloves.

Electronic Control Corp.—Electronic controls for guarding machinery.

Electronic Corp. of America, Combustion Control Div.—Electronic fire detectors.

Elliott Service Co.—Accident prevention displays and publications, conference programs, suggestion system service.

Emerson, J. H., Co.—Resuscitation equipment.

Fairfield Glove Co.—Fabric, leather and plastic work gloves.

Far-Ex Corp.—Aluminized fire-resistant clothing.

Fendall Co.—Head and eye protection.

Fibre-Metal Products Co.—Head and eye protection, welders' clothing.

Fine Organics, Inc.—Solvents of high flash point and low toxicity.

Ford Motor Co.—Safety features incorporated in new automobiles.

Frank Manufacturing Co.—Litters, stretchers, splints.

Frommelt Industries—Portable welding shield and protective heat cloth.

Gamewell Co., The—Fire alarm and watchmen reporting systems.

General Detroit Corp.—Fire extinguishing equipment.

Globe Co.—Grating for flooring, stair treads, work platforms and machine guards.

Gro-cord Rubber Co.—Neoprene cord and cork soles and heels.

Halperin, A. E., Co.—First aid and medical supplies, orthopedic stretchers.

Hewson Co.—Automatic ground and process controls, static alarm and control systems, insulation test sets.

Hickok Manufacturing Co., Automotive Safety Division—Automobile seat belts, steering wheel chest protectors.

Hild Floor Machine Co.—Floor scrubbers and polishers, vacuum cleaners, floor treatment products.

Holland-Racine Shoes, Inc.—Safety shoes.

Hygiene Research, Inc.—Protective creams, cleaning and mistproof cloth for eye wear.

Hy-Test Div., International Shoe Co.—Safety footwear for general use, conductive types and special types for atomic use.

Industrial Gloves Co.—Work gloves and protective garments.

Institute of Industrial Launderers—Laundry and cleaning service for industry.

Insto-Gas Corp.—Torches and furnaces.

Interstate Rubber Products Corp.—Trafficones for traffic control.

Iron Age Safety Shoes, H. Childs & Co.—Leather and rubber safety shoes for all industrial uses.

Jackson Products, Inc.—Head and eye protection, welding equipment.

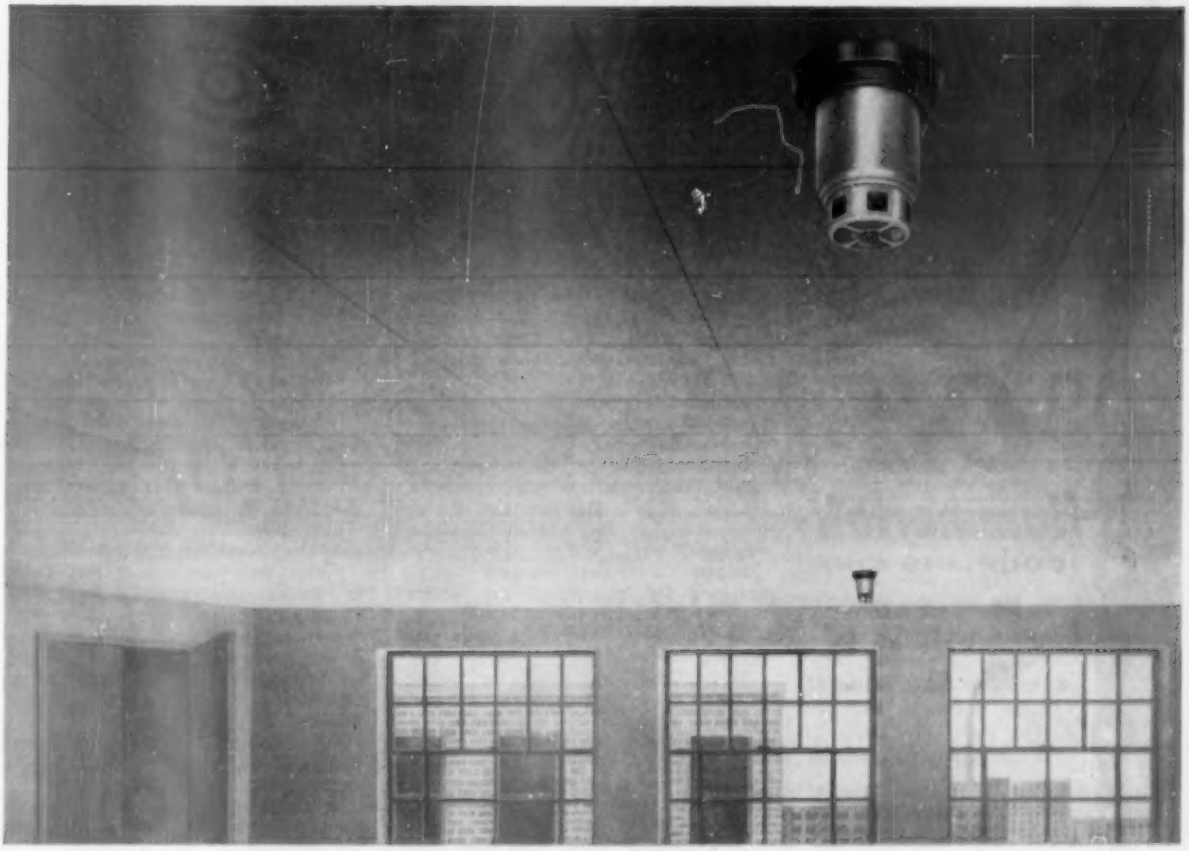
Jomac, Inc.—Work gloves, sleeves and hand guards.

Jones & Co.—Full vision plastic visor goggles.

Junkin Safety Appliances Co.—Press

# New, radio-active, automatic fire guard!

## C-O-TWO PRE-DETECTOR SYSTEM



Each pre-detector head protects up to 3,600 square feet of area . . . harmless radio-active element utilizing ionization chamber principle quickly detects all forms of fire . . . requires only simple two-wire circuit and insignificant wall space for controls.

This completely new and positive means of spotting fire is just what you've always needed and wanted . . . detects in the earliest stage, invisible combustion gases, visible smoke, slow smoldering, as well as open flame. The C-O-TWO Pre-Detector System is simple to install, extremely economical to maintain and doesn't depend on thick smoke or heat for actuation.

As many pre-detector heads as necessary can be connected together in a single circuit and up to 16 separate circuits or spaces handled by one system. With a single circuit the pre-detector heads are connected directly to the fire indicating cabinet, while with multiple circuits the pre-detector heads are first connected to one or more space indicating cabinets capable of visually showing by number the exact location of the fire. Relays perform such functions as sounding alarms, closing fire doors, shutting down ventilation and releasing fire extinguishing systems.

The C-O-TWO Pre-Detector System has been subjected to extensive testing and carries Underwriters' Laboratories, Inc. listing, as well as Factory Mutual Laboratories approval. Proven pilot installations have been made in such diversified properties as a television station, an electric power company network analyzer room, a railroad signal tower, an airline flight training equipment room and the offices of an insurance company.

Don't take unnecessary chances any longer . . . the extensive fire protection experience of PYRENE—C-O-TWO over the years is at your disposal without obligation. Get complete facts about this new C-O-TWO Pre-Detector System today!

Pyrene

**PYRENE — C-O-TWO**

**NEWARK 1 • NEW JERSEY**

Sales and Service in the Principal Cities of United States and Canada

C-O-TWO

**COMPLETE FIRE PROTECTION**

portable fire extinguishers . . . built-in fire detecting and fire extinguishing systems

CARBON DIOXIDE • DRY CHEMICAL • VAPORIZING LIQUID • SODA-ACID • WATER • CHEMICAL FOAM • AIR FOAM

MAKE YOUR OWN
HERC-ALLOY
CHAIN ASSEMBLIES
with all components furnished from your distributor's stock.

CM
Hammerlok®
COUPLING LINK
• NO PEENING
• NO WELDING
• Hammerlok is made of alloy steel . . . is stronger than Herc-Alloy chain . . . is thoroughly field tested.
• Write for literature or ask your industrial distributor about Hammerlok.
• Made by the makers of Herc-Alloy . . . the original alloy steel chain.
COLUMBUS McKINNON
CHAIN CORPORATION
TONAWANDA, NEW YORK
DISTRICT OFFICES: NEW YORK
CHICAGO • CLEVELAND
In Canada: McKinnon Columbus Chain Limited, St. Catharines, Ontario
CM
HOISTS AND CHAIN

guards, grinding wheel shields, stretchers.

Justrite Manufacturing Co.—Safety cans for flammable liquids, waste cans, electric lanterns and flashlights, fire extinguishers.

Karel First Aid Supply Co.—Industrial hospital supplies and equipment.

Kelley-Mahorney Co.—Skid-dash proof enamel.

Keystone View Co.—Visual screening test instruments.

Kidde, Walter, & Co.—Fire detecting and extinguishing systems, ultrasonic burglar alarm systems.

Kimball Safety Products Co.—Personal protective equipment for eyes, hands and body.

Klein, Mathias, & Sons—Linemen's and electricians' tools and protective equipment.

Kunz, J., Glove Co.—Work gloves for linemen, bridgemen and welders.

Legge, Walter, Co.—Floor maintenance materials, conductive flooring, static eliminators.

Lehigh Safety Shoe Co.—Safety footwear for general use and for special operations.

Lightfoot Schultz Co.—Powdered, liquid, bar, waterless skin cleansers.

Littell, F. J., Machine Co.—Power press safety devices and coil-handling equipment.

Logan Emergency Showers, Inc.—Showers for emergency use where corrosive materials are handled.

Lowery Bros.—Wire rope slings and splicing service.

Maico Co.—Audiometers for testing hearing.

Marsh & McLennan, Inc.—Insurance and safety service.

Martindale Electric Co.—Dust masks, eye protectors, electric test instruments.

Masury-Young Co.—Floor maintenance materials.

McAn, Thom, Safety Shoe Div., Melville Shoe Corp.—Safety shoes.

McDermott, Julian A., Corp.—Warning and safety lighting for industrial, municipal, utility and aviation use.

McDonald, B. F., Co.—General industrial safety equipment.

McJohn Corp.—Automobile safety belts.

Medical Supply Co.—Unit first aid supplies, snake bite and burn kits; stretchers.

Metal Arts Co.—Awards, gifts and trophies.

Metropolitan Life Insurance Co.—Publications on safety and health.

Micro Switch Div., Minneapolis Honeywell Co.—Controls for power machines.

Milburn Co.—Protective creams, work gloves and garments, waterless hand cleaner.

Miller Equipment Co.—Linemen's and industrial safety belts.

Mine Safety Appliances Co.—Safety and first aid equipment for all industries.

Minnesota Mining & Manufacturing Co.—Reflective sheeting and signs.

Morton Salt Co.—Salt tablets and dispensers for heat relief, rock salt for ice control.

National Medical Supply Co.—First aid supplies and equipment.

Newman Manufacturing and Sales Co.—Wire rope fittings, safety hooks, load protectors.

*Occupational Hazards*—Magazine publishers.

Oil-Dri Corp. of America—Oil absorbents, slip-resisting paint.

Onox, Inc.—Skin toughener to increase resistance to fungous infections of the feet.

Osborn Manufacturing Co.—Pliers and tongs for feeding power presses.

Pac-Kit Co.—Unit type first-aid supplies.

Packwood, G. H., Manufacturing Co.—Skin cleansers and dispensers.

Patent Scaffolding Co.—Wood, aluminum and magnesium ladders, sidewalk canopies, tubular steel and aluminum scaffolding, rolling scaffolds.

Pennsylvania Optical Co.—Head and eye protection.

Pepsi-Cola Co.—Beverages.

Permamix Corp.—Floor patching materials.

Petersen Engineering Co.—Tension wire stringers, earth augers and other construction equipment for utilities.

Pioneer Rubber Co.—Rubber, neoprene and coated gloves.

Pioneer Scientific Corp.—Plastic goggles, shields and prescription lenses.

Porto-Clinic Instruments, Inc.—Driver testing and training equipment, visual aids for traffic safety.

Positive Safety Manufacturing Co.—Power press guards.

Powder-Actuated Tool Manufacturers' Institute—Powder-actuated fastening tools.

Prairie State Products Co.—Enamel, porcelain, flashing and non-flashing signs.

Protectoseal Co.—Equipment for handling and storage of flammable liquids.

Prutsman, Ted, Defrosto Mirrors, Inc.—Rear view mirrors for trucks.

Pulmosan Safety Equipment Corp.—Respiratory and eye protection, work gloves, protective clothing.

Racine Glove Co.—Work gloves, protective clothing.

Radiator Specialty Co.—Cone rubber traffic guides.

Randolph Laboratories, Inc.—Fire extinguishers and automatic systems.

Reece Wooden Sole Shoe Co.—Wooden soled safety footwear.

Rockwood Sprinkler Co.—Automatic fire protection systems, sprinklers, waterfog, fogfoam and foam.

Rose Manufacturing Co.—Shock absorbers for safety belts and life lines, automobile seat belts.

Ross Operating Valve Co.—Air control valves for press operation.

Safety Box Toe Co.—Steel toes for safety shoes.

Safety Clothing and Equipment Co.—Safety clothing and equipment for all industries, fire blankets.

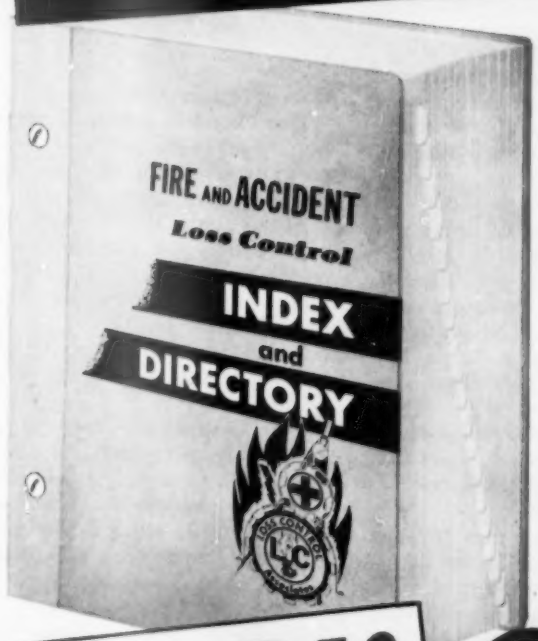
Safety First Products Corp.—Dry chemical fire extinguishers.

Safety First Shoe Co.—Safety shoes for men.

*—To page 76*

# Announcing...

# A NEW FIRE and ACCIDENT CONTROL INFORMATION SERVICE!*




## ONLY SERVICE OF ITS KIND

The service, representing 8 years of assembling, research and compiling, consists of a Fire and Accident Control information "Index and Directory". It will enable the busy Administrator, Engineer, Director, Inspector, Educator, Lecturer, etc., to find, quickly and easily, specific information he may desire on any phase of Accident Prevention and Fire Control.

**THE "INDEX AND DIRECTORY" PROVIDES THE FOLLOWING THREE DISTINCT SERVICES, EACH PART COVERING AN INDIVIDUAL NEED IN THE PROFESSION!**

**"INDEX"** . . . of sources of information for the many thousands of subjects on Fire and Accident Control contained in all nationally recognized Codes and Standards and reliable references.

**"GUIDE"** . . . to the *hazards* involved and *planning* and *action* necessary for maximum results concerning these individual subjects.

**"DIRECTORY"** . . . listing the purchase price as well as procurement source of essentially all publications containing information on the Fire and Accident Control field.

Instead of re-publishing the "Index and Directory" each year, a **"SUPPLEMENTAL SERVICE"** designed for the purpose of keeping the information continuously up-to-date, will be issued at 6 month intervals at the smaller cost to you of only $17.50 per year.

**$48.50**

**LESS 10% DISCOUNT**

allowed on all orders postmarked on or before December 31, 1955.

- Satisfaction guaranteed or money refunded if "Index and Directory" returned within 10 days!
- Delivery expected to start in 90 days. Orders delivered in sequence received, so send order TODAY!
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APPROX.
1,000 Pages
10,000 Subjects
50,000 References

MAIL THIS COUPON TODAY!

*THIS SERVICE ENDORSED BY NATIONALLY KNOWN "FIRE AND ACCIDENT" OFFICIALS.
(NAMES FURNISHED UPON REQUEST)

LOSS CONTROL Associates
629 Oakmont Drive, Plattsmouth, Nebraska N-D5
Gentlemen:

☐ Enter my order for ____ subscriptions to the "Fire and Accident Control Information Service" at $48.50 each, on which a 10% discount is allowed if my order is postmarked on or before December 31, 1955. I understand that a supplemental service will be provided semi-annually at a cost to me of $17.50 per year for which I will be billed on receipt of the first issue of supplements. I further understand that I may cancel the supplemental service at any time by my notification in writing.

☐ Check or Money order enclosed. ☐ Bill me.
☐ Please send additional information.

SIGNATURE .....
TITLE .....
COMPANY .....
STREET .....
CITY..... ZONE..... STATE.....

FIRE AND ACCIDENT
**Loss Control Associates**
629 OAKMONT DRIVE • PLATTSMOUTH, NEBRASKA

## Congress Quotes

*—From page 10*

gram was started, the company's accident frequency rate was 79.7. By 1954, this rate had fallen to zero and the company has worked 548 days and 1,034,139 man-hours without a disabling injury.

First, we had to make people safety conscious. This included everyone in the shop as well as top management. A safety committee was appointed with the responsibility for improving safety conditions everywhere in the plant.

We created the desire to be safe and then worked to make it a reality.

*—George M. Mitchell, Plant Superintendent, The Brammer Manufacturing Co., Davenport, Iowa. (Wood Products)*

### Respect, Not Fear

Don't be afraid of accidents—just be respectful of hazards.

Pulp bleaching involves the use of unusually large quantities of the toxic gas, chlorine, caustic room which is always manned.

If we are to work safely, we must recognize the materials and equipment with which we work for what they are and handle them accordingly. We are not to be afraid of them. That in itself usually leads to unsafe acts. However, it is necessary to respect them.

*—Homer G. Young, Supervisor, West Virginia Pulp and Paper Co., Covington, Va. (Pulp & Paper)*

### Use Cost Data

A good safety record can be interpreted in dollars and cents and become a part of a company's assets on a financial report.

The first step is to set up workable bases for computing costs of accidents. Every effort should be made to obtain actual rather than estimated costs for these records.

The next step is to compile cost data into comprehensive reports on a monthly basis. These should be tailored to three levels: management, foremen and supervisors, and shop and office personnel. As an added service, each of these can be projected as a forecast of what the total injury cost will be for the full year.

*—Lee B. Johnson, Chief Safety Engineer, Northrop Aircraft, Inc. (Accident Control)*

### Welding Essentials

Although welding has progressed a great deal since its beginning, its basic problems today as an industrial tool are still the same.

First, there must be adequate machinery, well-placed and properly manned. Second, the product must be designed to lend itself to welding. Third, operators and other workers must be protected from hazards such as burns, flying hot particles of metal and high voltage.

*—E. A. Schneider, Plant Manager, Lock Steel Chair Co., (Aeronautical Industries)*

### A Different Approach

Safety means different things to different people, so you must sell it to people for different reasons.

When you are selling management, stress dollars and cents. When you are selling supervisors, emphasize production and quality. When you are selling workers, stress the human element.

*—W. C. Creel, Safety Director, North Carolina Dept. of Labor. (Wood Products)*

### Rocket Fuels

Handling and storage aspects of liquid rocket engine fuels present no more of a problem than gasoline did years ago.

These fuels and oxidizers are most widely used in the rocket engine field today: alcohol and liquid oxygen; aniline and white fuming nitric acid; furfuryl alcohol and red fuming nitric acid, and JP series jet fuel and mixed acid.

The introduction of liquid rocket engine propellants into the propulsion field will be no greater task than was the introduction of gasoline. With our greater knowledge and experience of today, it should be a lesser task.

*—E. W. Harslem, Chief, Test Dept., Reaction Motors, Inc. (Aeronautical Industries)*

## Worth Being Safe For

Awakened at the morning-tide by nature's feathered ones;
Aroused by smells of coffee, bacon, eggs, and buttered buns.
Delighted by the sweet good mornings only children give;
A stretch, a sigh, a yawn, a heigh, a rich-full life to live.

Out the door, a quick deep breath of freshened dewy breeze,
Golden shafts of sunlight brightly piercing through the trees.
The gentle purr of engines as I venture on my way,
A horn, a light, the rush, the might of another vibrant day.

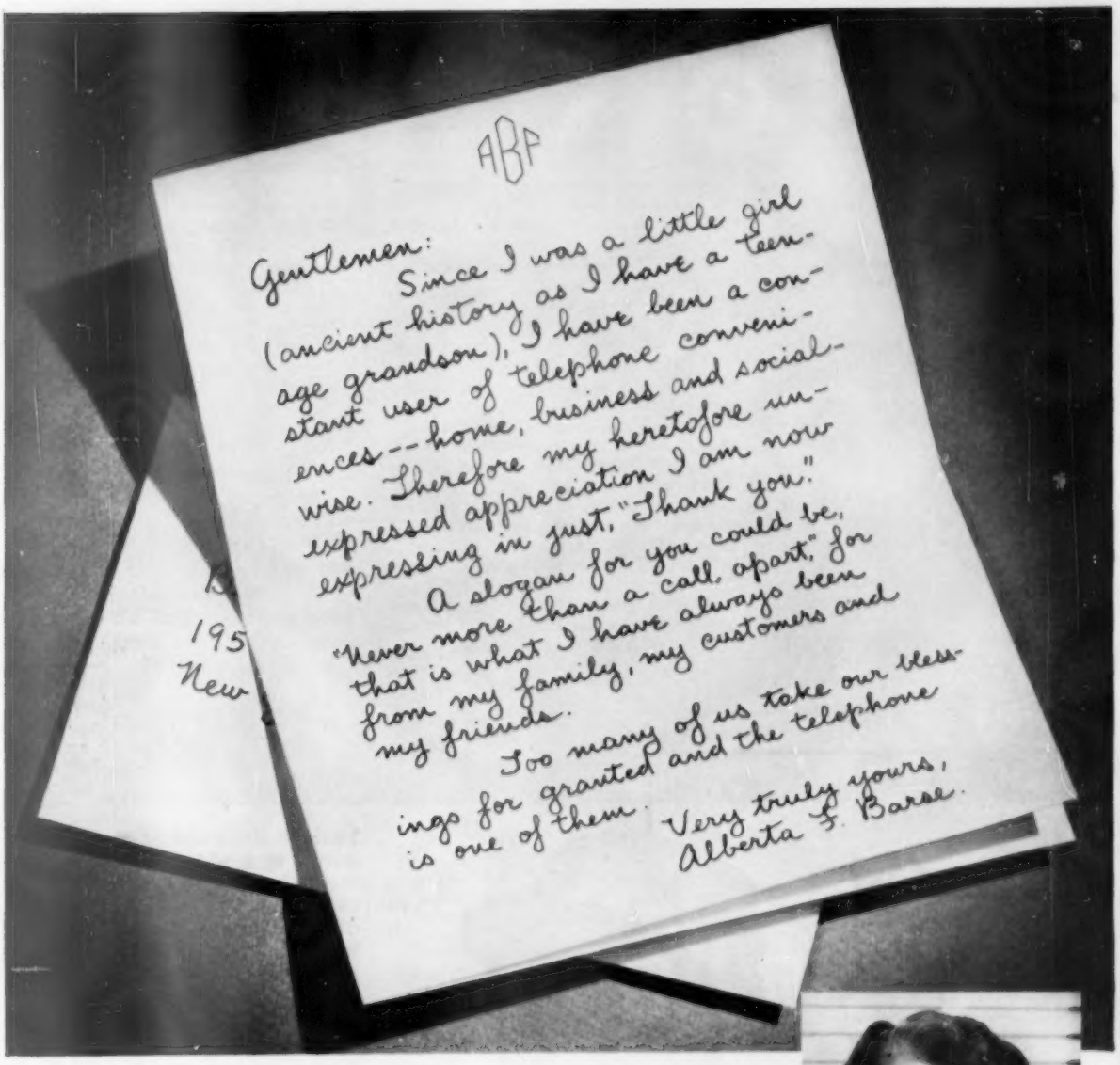
The cheerful greetings of the guys reporting on the shift,
A quick comment on sports, TV, the kids, a birthday gift.
The busy hum as work begins, as only it can tell
Of skills God gave us put to use, and everything is well.

The children running down the steps to welcome home the boss,
A hug, a shout, a kiss, a pout, the pup a stick to toss.
Bedlam at the table on the subjects, home and school;
Need to teach a sprite to live and act the golden rule.

Cozy with the paper as the kitchen chores are done;
Toys must all be gathered up—here doll, here cowboy gun;
Then a bedtime story with a pixie on each knee,
Hard to tell who likes this most, the little ones or me.

And so to bed, I softly tread, but first a spell to ponder
Of all fine things a good life brings, a constant source of wonder.
So as I toll I hope to spoil the aim of the grim reaper,
Take care all day, at work and play, and be my brother's keeper!

*—Robert D. Gidel*


ABP
Gentlemen:
Since I was a little girl
(ancient history as I have a teen-
age grandson), I have been a con-
stant user of telephone conveni-
ences -- home, business and social-
wise. Therefore my heretofore un-
expressed appreciation I am now
expressing in just, "Thank you."
A slogan for you could be,
"Never more than a call apart," for
that is what I have always been
from my family, my customers and
my friends.
Too many of us take our bless-
ings for granted and the telephone
is one of them.
Very truly yours,
Alberta F. Barse.

MRS. ALBERTA F. BARSE

# "Never More than a Call Apart"

We received a very nice letter from a woman on Long Island, N. Y., the other day and we thought you might like to share it with us.

Mrs. Barse's letter is typical of the many we receive from people who are kind enough to write about the value of their service and the friendliness and help of telephone people.

Such letters are not only pleasant to receive but an encouragement to all of us to do even better in the days to come.

BELL TELEPHONE SYSTEM

## Pageant of Products

*—From page 72*

**Safety Tower Ladder Co.**—Safety life line locks for scaffolds, swings and ladders.

**Salisbury, W. H., & Co.**—Linemen's rubber protective equipment.

**Sani-Mist, Inc.**—Athlete's foot preventive.

**Sarole, Inc.**—Equipment for transporting the injured.

**Sawyer, H. M., & Son Co.**—Neoprene coated protective garments.

**Schrader's, A., Son.**—Pneumatic accessories for presses and shears.

**Scientific Industrial Supply Co.**—Gloves, clothing and general safety equipment.

**Scott Aviation Corp.**—Breathing apparatus.

**Seco Engineering and Manufacturing, Inc.**—In-plant fire trucks.

**Sellstrom Manufacturing Co.**—Face and eye protection.

**Speakman Co.**—Emergency showers, eye wash fountains, shower valves.

**Speed-Dri Corp.**—Oil, grease and water absorbents.

**Standard Safety Equipment Co.**—Personal protective and general safety equipment.

**Steel Scaffolding Co.**—Sectional steel scaffolding, rolling scaffolds.

**Stepan Chemical Co.**—Skin cleansers.

**Stephenson Corp.**—Resuscitation equipment, chemical tests for intoxication.

**Stonehouse Signs, Inc.**—Accident prevention signs.

**Stop-Fire, Inc.**—Fire extinguishers.

**Surety Rubber Co.**—Linemen's safety equipment, protective gloves and garments.

**Surty Manufacturing Co.**—Safeguards for wood and metal working.

**Swivelier Co.**—Adjustable lighting fixtures.

**Taylor, S. G., Chain Co.**—Alloy steel sling chains and hooks.

**Tect, Inc.**—Low toxicity solvents.

**Trinal, Inc.**—Protection for the metatarsal arch.

**U-C-Lite Manufacturing Co.**—Portable electric hand lamps and emergency lights.

**Union Wire Rope Corp.**—Wire rope slings, fittings and towlines.

**United States Safety Service Co.**—Head and eye protection, welding shields, salt tablets, plastic lenses.

**Vari-Products Co.**—Highway emergency reflector flares.

**Wagner Sign Service, Inc.**—Changeable message signs.

**Watchemoket Optical Co.**—Plastic eye protectors, safety signs.

**Waverly Petroleum Products Co.**—Oil and grease absorbents.

**Welsh Manufacturing Co.**—Goggles, face shields, helmets.

**Westline Products Div., Western Lithograph Co.**—Safety signs and slogans.

**Wheeler Protective Apparel, Inc.**—Gloves and garments for protection against heat and abrasion.

**Wilkins Co.**—Lens-cleaning and antifogging stations.

**Williams Jewelry and Manufacturing Co.**—Awards, badges and trophies.

**Willson Products, Inc.**—Eye and respiratory protection and allied protective equipment.

**Wilson Rubber Co.**—Rubber and synthetic gloves.

**Wind-Kor Automatic Safety Device Co.**—Automatic safety harness.

**Wolverine Shoe and Tanning Corp.**—Industrial safety shoes.

**Wyandotte Chemicals Co.**—All-purpose floor absorbents, industrial detergents.

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For the benefit of uranium prospectors—little, big and in-between—American Manufacturers have come up with a variety of Geiger counters, ranging in price from $21.95 to $999.95.

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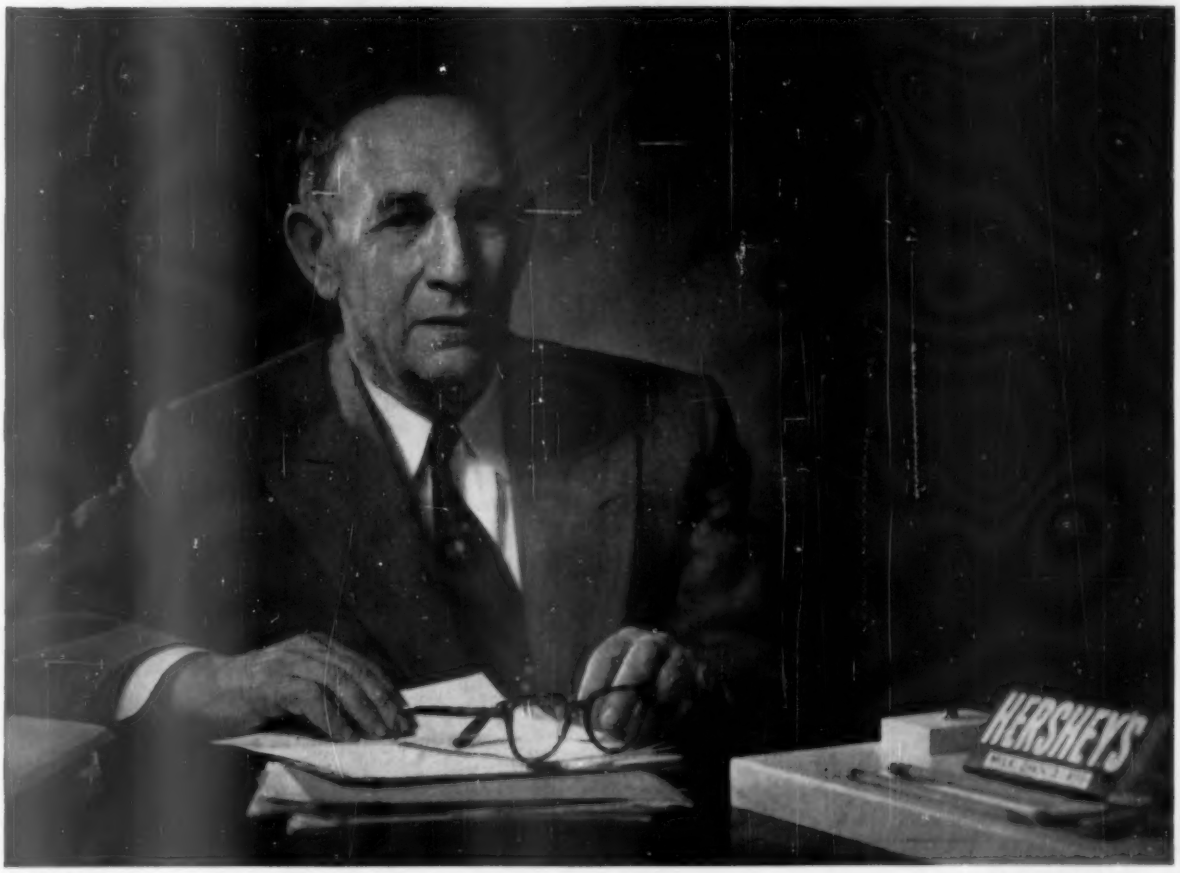


P. A. STAPLES

Portrait by Fabian Bachrach

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"We all realize fully the importance of sound money to the economy of our country and our community. I wholeheartedly recommend that all business executives activate this plan in their respective companies."

**P. A. STAPLES,** ***Chairman of Board and President, Hershey Chocolate Corporation***

If your company has the Payroll Savings Plan, your State Sales Director will be glad to help you organize a Person-to-Person Canvass that should increase employee participation to 50%, 60% or more. If you do not have the Plan, he will show you how easy it is to install one. Write to Savings Bond Division, U. S. Treasury Department, Washington, D. C.

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Business and industry are daily finding more uses for these rugged little Tokheim pumps. They are available with hose or spout outlets and other optional attachments. Pump operates on both forward and back strokes and is capable of delivering 20 gallons a minute. Will pump 'most anything that pours. Offered with alternate parts to handle special liquids. No plant should be without a battery of Tokheims.

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## The Truceless War

*—From page 19*

jured during 1953. In contrast only one of each 43 military personnel world-wide incurred disabling injury during 1954. This suggests that military personnel last year, despite the hazards of their training and accidents in privately-owned vehicles while off duty, were about three times freer from accidents than their civilian counterparts in industry.

Our safety program is based on the same principles as those used by industry. We believe every accident has a cause. We investigate each accident to see whether and how our men, our operation or our supervision helped cause the accident. Principal causes are identified and concerted action is directed against them.

The Army Safety Program includes every operation, every activity and every person related to the Army. It is integrated through every echelon of command so that a continuous effort is made by commanders to prevent every possible accident.

It is an effort to prevent accidental injuries, damages or fires in the operation of railroads, aircraft, vessels, trucks, and also the work and play of all kinds of persons, whether military personnel, civilian employees, or visitors on Army property.

It functions on the theme that any job done properly is a job done safely. It holds that most accidents are evidence of command or management failure — failure to instruct, convince, inform, demonstrate or otherwise influence the worker. The military operation may drastically differ from commercial enterprises, but the principles are analogous.

Because of our successes, other governmental agencies and industry occasionally request our counsel, perhaps hoping for a panacea to prevent accidents without effort. Examination of unproductive safety programs usually reveals a failure to employ a balanced attack on all fronts.

In addition to the testing and training of the individual, we encourage teamwork with his

commander or supervisor. We commend good performance, encourage safety suggestions and offer extra compensation when they are adopted. In discipline we try to be fair, firm, prompt and consistent. We cooperate with others, offering and seeking assistance on mutual problems of safety.

We investigate and report all accidents for cause. We put accident facts to work by analysis which indicates problem areas. We maintain personnel records for each man. In basic planning we engineer for safety. We periodically inspect operations and premises to correct accident hazards. Specific safety objectives, teamwork, strong command support, able technical advisers, and making safety the responsibility of every commander are the essential factors of our program.

### The Public Can Help Us

Cooperation with civil authorities and with other users of the transportation system is essential to our success in preventing accidents.

You can assist us by reporting to the proper military authorities flagrant violations of military personnel driving vehicles so that we can take corrective action against offenders to improve their driving.

You can help by insisting that youngsters of pre-draft age receive adequate driver training in high school. This is perhaps the best guarantee for their safe return from a tour of duty in the Army.

You can invite our attention to the commendable acts of soldier drivers on your highways so that we can publicize and credit the individual.

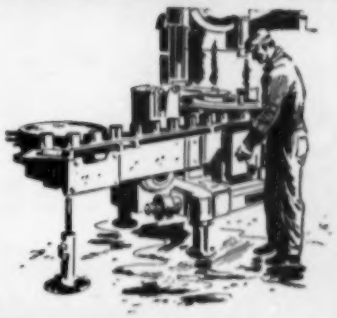
You can be patient with our "convoys," knowing that this is the best and safest way for quantity movement of men and material by motor transport.

We have developed an interchange of assistance in accident prevention efforts with communities, states and with other nations.

### Problems

Some of the problems confronting us in considering our safety


# The FOOD PROCESSOR knows



. . . that he wants his products to meet high standards . . . to merit the stamp of approval from Government . . . and consumer.

Alert food processors are learning that there is a recognized stamp, too, for safety in floors . . . and that ALGRIP Abrasive Rolled Steel Floor Plate's protection against slipping on wet, greasy or oily floors has won it the valued safety approval of the Underwriters' Laboratories.

The food processing industry faces special safety-from-slipping problems, with grease, splashing around vats, and other hazards. Meat packing, for instance . . . with 9.98 disabling injuries per million man hours . . . is above the national industrial average of such injuries. Study of 517 food processing units showed a rate of 13.42 disabling injuries per million man hours—almost double the national industrial average of 7.44.*

Many such plants have found ALGRIP flooring's abrasive — deeply embedded and uniformly distributed — the answer to the slipping problem. It saves lost days for the worker . . . cuts insurance costs . . . helps pay for itself in dollars as well as human safety.

*National Safety Council

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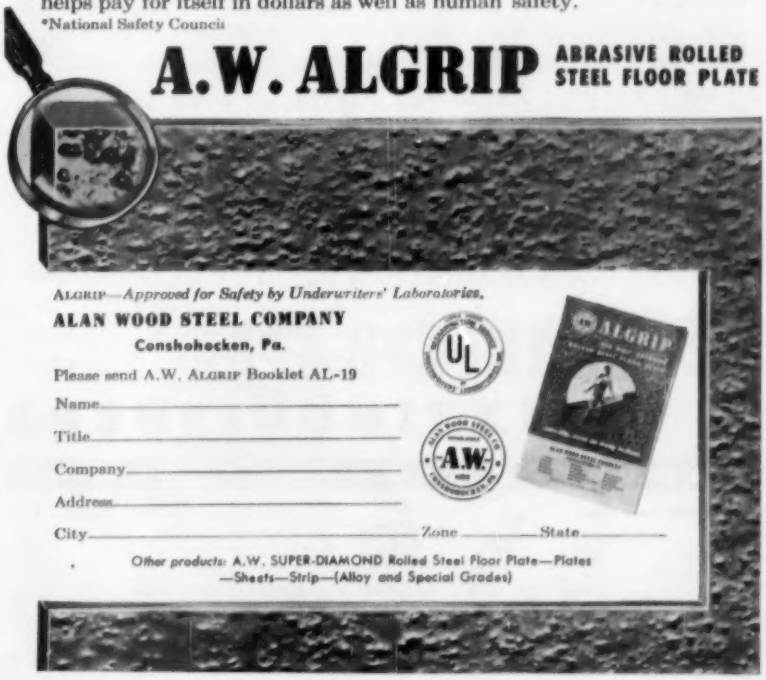

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**Conshohocken, Pa.**

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One glance tells you just how the Randolph operates—no instructions, no explanations necessary. That's why *anybody* can get a Randolph into action fast! Just point and press your thumb and Randolph's cloud of snowy $CO_2$ kills fire instantly.

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program will have a familiar ring, but others are unique to us:

**Personnel Turnover.** There is a rapid turnover of personnel in the military services. We must constantly train men newly entering the service to replace those who have completed their tours of duty. These include many of our key non-coms (the foremen of the Army) and officers.

Our job is cut out for us. These men generally are not safety conscious when we get them, but we believe those we send back to civil life have gained a high regard for preventing accidents.

We like to believe that our safety training effort is not lost when a soldier reverts to his civilian status. His changed attitudes and increased skills should be beneficial to the community and industry.

**Equipment Shortages.** Economy dictates that we operate with the minimum equipment. To prevent being hindered by shortages in equipment, we insist on safety to help keep every piece of equipment off the deadline if possible. Some of it is old in terms of usage and years. But we must get the job done — safely and on time.

**Personnel Shortages.** Currently wide dispersal of troops intensifies personnel shortages by increasing the transportation problem. Widely scattered men and bases require a great deal more transport service than concentrated groups.

Therefore, spreading ourselves thin, personnel-wise, increases the safety problem in some respects. Many of our officers and men frequently work overtime without compensation or credit, knowing their long hours help to insure that your Army's personnel and material continue to move to and from destinations, safely and on time.

**Inexperience.** Youthfulness and inexperience of personnel comprise important problems in our accident prevention effort. We have a very high percentage of inexperienced "teenagers." Most industries prefer to employ mature and experienced personnel.

The Army must engage in a continuous training effort to transform inexperienced 18-year-old young men—many with hot rod penchants—into dependable operators, qualified to handle complicated and heavy transportation equipment under the most difficult of driving conditions.

It is a tribute to the training, to the character and to the quality of our soldiers that they contribute greatly to an improved accident record which many of you might envy. The soldier is about three times as safe from accident in the Army as is his counterpart in civilian life!

Hazardous operations such as the throwing of grenades, operation of tanks, jumping from airplanes and the other relatively dangerous activities characterize the duties required of servicemen, yet it is principally the common, everyday motor vehicle which fills our military hospital beds and which depletes our ranks!

Whose vehicles are they?

The vast majority are privately-owned vehicles which the soldier drives or rides in during his off duty hours. Their accidents constitute the primary transportation safety problem of the military services, usually involving soldiers on leave or pass. Often these occur when the soldier falls asleep and his vehicle leaves the road.

Most of our servicemen who use the public highways are prudent and careful; however, we are not proud of the way in which a few of them drive off duty. Their accidents figure prominently in the accident record of the community. Insurance companies regard the off-duty serviceman (in the lower three grades) a poor accident risk while driving his private vehicle.

In fairness to the serviceman, it is well to point out that the military services are among the few agencies or industries which include in their accident experience those accidents involving personnel *off duty*.

We receive reports on each serviceman disabled in an accident while off duty. We actively program to offset those accidents by various methods.


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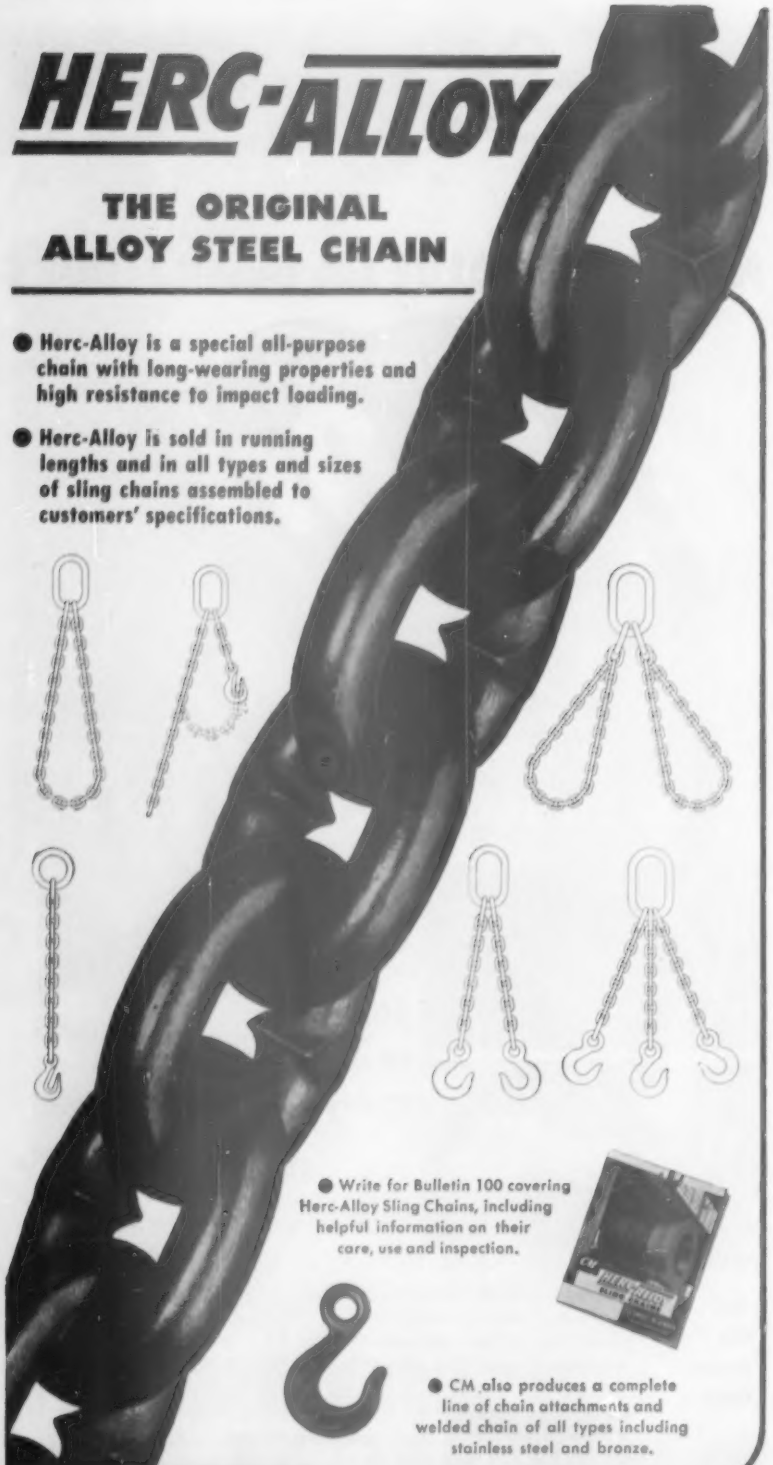

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Before any transportation program can be regarded as complete and effective, it must include the data of, and aggressively program against, all accidents, including those which may occur off duty. Men away from their station, their home or work may not drive quite the same. The sort of driving that seems to characterize the average person on his vacation or on his "Saturday night fling" figures in the off duty problem of the serviceman.

The youth entering the Army treasures his car—whether hot rod, jalopy or limousine. For the most part they are not trained drivers in the real sense, although they may be licensed to drive by their states. They are no better, nor worse, than the youth living in your neighborhood. They are away from home, free from parental guidance and supervision.

Off duty, they tend to drive much as the public does back home. For the most part, they seem to be the product of the home driving environment. The family car was their classroom. Parents with a general disregard for law and safe driving were all too often their teachers.

Many of their accidents could be prevented if they had been taught how to drive properly—when they first learned how to drive.

The ideal going-away present, the best insurance, that can be given a soldier-to-be is to provide adequate driver training before he enters military service. Support the effort to provide accredited driver training in the high schools. Insurance studies show that such training definitely pays off in reduced accidents. Such training before his tour in the military service means a safer man in a safer Army.

Servicemen with long distances to travel on leave or liberty should be encouraged to use commercial carriers—railroads, aircraft or bus. They are many times safer per mile traveled. When servicemen do drive, family and friends should help insure that they will start back rested, sober and cognizant of the latest weather report. They attempt to drive too far, too fast and too late.

The scope of this problem is indicated by the number of privately-owned automobiles which are registered at Army installations. Fifteen thousand is not an uncommon number. A study made at one of our Army installations revealed that the average soldier at that post drove his own car about 20,000 miles a year—more than twice the average for the public at large.

We are proud of our achievements. We are hopeful of a safer tomorrow. We know accidents can be prevented. It is our mutual obligation to take another penetrating look at the factors which, when combined, will prevent accidents: Specific safety objectives, teamwork, command support, technical advisers, testing, training, motivation, discipline, cooperation, investigation, reporting, personnel records, and inspection.

Many of you in your work and in your homes are in a position to mold our men by training and by example. This will benefit the National Defense effort, our military safety program, and ultimately the industry and community to which our soldiers return.

Unless we join forces, the natural ebullience of youth, coupled with misguided example or negligence of elders, will continue to produce preventable accidents with tragic consequences. Your efforts to help discipline our soldiers in safety before they put on the uniform will further reduce the need for that sad message addressed to the next-of-kin and signed by the Adjutant General.

"Ah, ah, Herbie! I wouldn't tease the electricity."

Buffing is for the birds. It wastes time, money and labor. LEGSURE polishes itself as it goes on your floors. It's slip-resistant, scuff-resistant, dirt and water repellent. Gleams like a new penny, wears like a million. For all resilient floors.

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SAFETY

# Off the Job

**Program suggestions for company activities and announcements of Council services will be carried in this department. For information on program planning write G. T. O'Neill, OTJ Safety Committee, National Safety Council Staff Representative**

## Merit Award Program at Los Alamos

THE HOME SAFETY PROGRAM of the Los Alamos field office of the United States Atomic Energy Commission is a continuous part of the year-round program of the Health and Safety Branch which includes the Fire Department, Police Department, Public Health and Sanitation Department, Safety Engineering Section and Fire Protection Engineering Section. It is carried on with participation and cooperation of local civic groups including P.T.A., Red Cross, Boy and Girl Scouts, Lions, Kiwanis, schools and the civil defense organization.

The scope of the home safety program includes community safety, including playgrounds, community swimming facilities, picnic areas, house yard hazards, home or neighborhood recreational activities and such other activities which would result in home and community accidents as differentiated from motor vehicle, pedestrian and industrial accidents. Injuries, industrial, community or home, which are treated by physicians at Los Alamos, regardless of nature or seriousness, are reported to the Health and Safety Branch for accident prevention purposes.

Classification of home and community accidents have been divided into home, recreational, school, business establishments, traffic and community other. Accident reports represent very nearly 100 per cent coverage and are reviewed on a continuous basis for the detection of trends and for emphasis for educational efforts.

Activities for the home and community safety programs are determined from local accident statistics, national accident trends and experience as revealed by national safety statistics and released information, National Safety Council's safety kit suggestions, insurance company recommended activities and community safety experience of safety and fire protection engineers. Seasonal hazards such as kite flying, outdoor toys, gardening, hunting and winter sports are given special emphasis.

Community activities for the year 1954 included:

1. Participating in Spring Clean-Up Week and Fire Prevention Week campaigns, in which Los Alamos placed 14th out of 1667 competing cities throughout the United States and Canada; first in the State of New Mexico and second in over-all competition in their population group.
2. All pre-construction plans for new housing and additions to existing housing are reviewed for elimination of accident hazards.
3. All community construction is inspected to assure public protection.
4. Playgrounds are inspected quarterly to assure safe maintenance of play equipment.
5. Home storage facilities are inspected to eliminate fire hazards.
6. The No Fireworks ban was enforced.

**Planning for February and March. Operation Safety themes and materials for these months are "Know and Obey Traffic Laws" and "Motor Manners" respectively. Home and public safety themes for the same months are "Built in Safety Building Codes" and "Family Courtesy for Safety."**

7. Wandering dogs were picked up and impounded.
8. Insurance company home safety pamphlets were distributed at P.T.A. meetings and hospital open house.
9. P.T.A. meetings with the topic of home safety were held with safety and fire protection personnel participating as panel experts.
10. All TV antennas were inspected for conformance with established standards.
11. First Aid classes for the homemaker were conducted by the Fire Department.
12. National safety publications—*Public Safety, Safety Education, Safe Worker, Safe Driver, Safety News* and *Operation Safety*—were distributed to the schools and community officials.
13. The service clubs (Kiwanis and Lions) presented safety programs.
14. Items on seasonal hazards were furnished by local radio and newspapers.
15. All ninth grade students were given a four-hour quiz in home fire hazards, fire prevention and fire extinguishment.
16. Talks and movies were shown to all grade school children on fire prevention.
17. Approximately 25 Boy Scouts were given a course in firemanship.
18. Numerous talks and movies on fire prevention were shown to civic groups.
19. Classes were held for housewives in "civil defense fire fighting for householders."
20. Baby-sitter instructions were passed out to sitters and mothers.

No fatalities due to home or community accidents (including motor vehicles) have occurred over the past two years. While the number of minor accidents were continuing to occur without appreciable decrease, very few accidents of serious nature are occurring. The general expression of public opinion is that Los Alamos is a clean and safe town in which to live and raise a family.

---

The length of a man's life depends not so much on the star under which he was born as the color of the light when he crosses the street.


Don't Slip up on Safety

FERROX is low-cost insurance

Serious slipping accidents can happen anywhere—on stairs, walkways, ramps, loading platforms, washrooms, machine areas, etc. Low-cost Ferrox provides safe footing on all walking surfaces, wet or dry. It can be trowelled over wood, concrete or metal ... sticks tight ... resists oil, chemicals and weather conditions. One gallon covers approximately 40 sq. feet.

Write to Department 21 for Ferrox Bulletin.

AD 1200

AMERICAN ABRASIVE METALS COMPANY

IRVINGTON 11, NEW JERSEY

# SAFETY FILMS

**For further information on publications or films listed here, write Nancy Lou Blitzen, Film Consultant, Membership Service Bureau, National Safety Council**

## Health and Hygiene

*The Doctor Examines Your Heart* (16mm sound motion) black & white. 11½ minutes. Produced in 1955. TV o/k.

This film was produced in collaboration with the American Heart Association and is designed to promote active care of the heart to help avoid sudden heart failure and attacks which could be prevented through early detection. It tells the need for periodic heart examinations and shows the actual procedures of such examinations at the doctor's office.

Prints are available for rental and purchase from Bray Studios, Inc., 729 Seventh Avenue, New York 19.

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SAFE TO USE
THOSE IN THE KNOW
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## Flight Safety

*Advanced Maneuvers* (16mm sound or silent motion) black & white. 10 minutes. Produced in 1949.

The film explains and illustrates stalling and spinning maneuvers of a plane. It shows how to stall and recover and how to spin and recover. When to do both and when not to told, plus other maneuvers such as flying steep turns, mushing, ground looping and acrobatics. Safety precautions stressed throughout.

*Landing* (16mm sound or silent motion) black & white. 8 minutes. Produced in 1949.

This film gives the steps that must be taken in landing a plane. The difficulties and hazards to be avoided and how to safely overcome them are illustrated.

Both films are available for rental and purchase from Bray Studios, Inc., 729 Seventh Avenue, New York 19.

## Electrical Safety (off-the-job)

*Look Up and Live* (35mm silent slide-film) black & white. Produced in 1955.

The filmstrip was developed by the Pacific Gas and Electric Company and it tells of the danger of overhead high tension lines. It shows hazardous situations and preventive techniques for TV antenna installations, industrial equipment, and farm equipment. Most of the filmstrip deals with home and industrial equipment.

Prints are available for purchase from Pearson and Luce Productions, 505 Geary Blvd., San Francisco.

## New NSC Film

The National Safety Council has a new industrial film available for rental and purchase.

The film uses a technique of combining live action with ani-

mation and is both instructional and amusing.

The title of the production is *Friendly Machines.* It is a 16mm sound motion picture in black & white running about 10 minutes. It is an employee attitude film telling the story of how machines are not to blame for accidents. Regular shop machinery with animated faces decide that they are going to do something about the accidents they are blamed for. The combined actions of the lift truck, punch press, overhead crane and others convince their operators that safe work practices reduce accidents and that the machines are strictly the innocent party in accidents.

* * *

The December quarterly Supplement to the *National Directory of Safety Films* is now available. Single copies will be sent free on request.

## New York Revises Window Cleaners' Code

New York State's revised worker-safety regulations protecting window cleaners became effective December 1, it has been announced by Admiral William S. Maxwell (U. S. N., retired), chairman of the Board of Standards and Appeals. The regulations are embodied in Industrial Code Rule 21.

"The new regulations, which the State Labor Department will enforce, will provide greater safety for workers in this high-hazard industry," Admiral Maxwell declared. "It should also eliminate many of the 600 requests for variations from provisions of the former rule, which the Board has received during an average year."

Changes in the code rule include: Permitting the choice of using anchors and belts, or ladders, or scaffolds, or bosun chairs; restricting metals for safety belt fittings and safety anchors to a choice of four alloys considered by experts to be best for the purpose; adding a detailed specification for fabrication and heat treatment of forgings.

The other members of the Board of Standards and Appeals are H. Myron Lewis and George S. Raymond.

## Six "Musts" in Training

The six traditional musts of newspaper reporting — what, where, when, why, how, and who —have been put to work promoting safety.

At Hammermill Paper Company, these factors are used in safety orientation and training of employees:

1. Tell your employees *what* your safety program is.
2. Encourage them to learn, teach and practice safety every*where*—in the plant, on the highway, in the home.
3. Answer questions so they will know *why* safety pays.
4. Teach them *when* you know they need training.
5. Make them conscious of *who* benefits all the way.
6. Show them *how* to do things the safe way.

—*Harry J. Hahn, Safety Director, Hammermill Paper Co. (Pulp and Paper)*


**Pointing the Way to More Effective Safety Promotion**

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*The coupon will bring you a new catalog which will illustrate how many industries are using this new device.*

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# COMING EVENTS

*in the field of safety*

**Dec. 1-2, Los Angeles**
Second West Coast Noise Symposium Institute of Aeronautical Sciences, coordinated by the Greater Los Angeles Chapter, National Safety Council. A. M. Noyes, general chairman, 610 S. Main Street, Los Angeles 14.

**Dec. 12-13, New Orleans, La.**
Annual Louisiana Safety Conference and Exhibit (Roosevelt Hotel). Charles E. Doerler, secretary, P.O. Box 1148, Shreveport, La.

**Jan. 19-20, Milwaukee**
Wisconsin Council of Safety, Midwinter Safety Conference and Exposition (Hotel Schroeder). R. W. Gillette, exceutive secretary-treasurer, Wisconsin Council of Safety, 1 West Wilson Street, Madison 2, Wis.

**Feb. 2-3, San Francisco**
Sixth Annual California Statewide Meeting, Governor's Industrial Safety Conference (Fairmont Hotel). A. C. Blackman, chief, Division of Industrial Safety, Department of Industrial Relations, State of California, 965 Mission St., San Francisco.

**Mar. 4-6, Atlanta, Ga.**
Southern Safety Conference and Exposition (Biltmore Hotel). W. L. Groth, executive director, P.O. Box 8927, Richmond 25, Va.

**Mar. 7-8, Philadelphia**
Twenty-second Annual Philadelphia Safety and Fire Conference and Exhibit. (Broadwood Hotel) Walter W. Matthews, managing director, Philadelphia Safety Council, 121 S. Broad St., Philadelphia 7.

**Mar. 19-21, Los Angeles**
Third Annual Southern California Safety Congress and Exhibit (Ambassador Hotel). Joseph M. Kaplan, secretary-manager, Greater Los Angeles Chapter, National Safety Council, 610 S. Main Street, Los Angeles 14.

**Mar. 28-29, Indianapolis**
Ninth Central Indiana Safety Conference and Exhibit (Claypool Hotel). Jack Gunnell, director, Indianapolis Safety Council, c/o Chamber of Commerce, 320 N. Meridian St., Indianapolis 11, Ind.

**Apr. 5-7, Klamath Falls, Ore.**
Forest Products Safety Conference. Charles Houston, personnel manager, Weyerhaeuser Timber Company, Klamath Falls, Ore.

**Apr. 9-10, Toronto, Ont.**
Industrial Accident Prevention Associations Annual Conference (Royal York Hotel). R. G. D. Anderson, general manager, 90 Harbour St., Toronto 1, Ont.

**Apr. 10-11, Fort Wayne, Ind.**
Thirteenth Annual Northeastern Indiana Safety Conference and Exposition (Chamber of Commerce Building). Sponsored by the Industrial Safety Committee of the Fort Wayne Safety Council. Ivan A. Martin, manager, Fort Wayne Safety Council, Chamber of Commerce of Fort Wayne, Fort Wayne 2, Ind.

**Apr. 10-12, St. Louis, Mo.**
Central States Safety Conference

**These FORGED beryllium copper tools stay sharp longer . . . yet provide maximum protection against spark hazards**

Now, with this new line of Ingersoll-Rand beryllium copper tools, you can play it safe . . . and still get far greater tool life than ever before obtainable with this type of equipment. That's because I-R tools are FORGED — not merely cast — of a special, high-strength beryllium copper alloy. A trial order will quickly demonstrate their superiority over any spark-resistant paving breaker tools you have ever used. It will pay you to see your nearest I-R representative about this as soon as possible.

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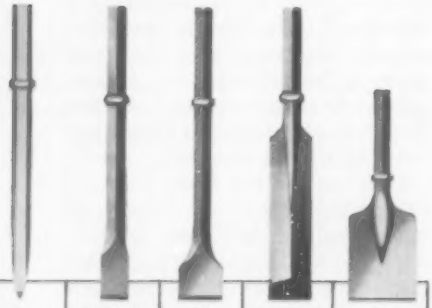
**with IR SPARK RESISTANT PAVING BREAKER TOOLS**



| SHANK SIZE, HEX. | MOIL POINTS | NARROW CHISEL BITS | 3" CHISEL BITS | 3" x 12" DIGGING CHISEL | 5" ASPHALT CUTTER |
|---|---|---|---|---|---|
| 7/8" x 3¼" | X | X | X | | |
| 1" x 4¼" | X | X | X | | X |
| 1 1/8" x 6" | X | X | X | X | X |
| 1¼" x 6" | X | X | X | X | X |

(Hotel Chase). Reyburn Hoffman, secretary-manager, The Safety Council of Greater St. Louis, 511 Locust St., St. Louis, Mo.

**Apr. 16-20, New York**

Twenty-sixth Annual Greater New York Safety Convention and Exposition. (Hotel Statler). Paul F. Stricker, executive vice-president, Greater New York Safety Council, 60 E. 42nd St., New York 17.

**May 2-4, Charlotte, N.C.**

Twenty-sixth Annual North Carolina Statewide Industrial Safety Conference (Charlotte Hotel). H. S. Baucom, director of safety, North Carolina Industrial Commission, Raleigh, N.C.

**May 10-11, Baltimore, Md.**

Governor's Safety-Health Conference and Exhibit (Lord Baltimore Hotel). Joseph A. Haller, executive director, Department of Labor and Industry, State of Maryland, 12 East Mulberry St., Baltimore 2, Md.

**Oct. 22-26, Chicago**

Forty-fourth National Safety Congress and Exposition (Conrad Hilton Hotel). R. L. Forney, secretary, National Safety Council, 425 N. Michigan Ave., Chicago 11.

# PERSONALS

## Heads Veterans of Safety

CHARLES A. COUTTS, director of safety, Northern States Power Company, has been elected president of Veterans of Safety, a national organization with a membership of more than 1,000, all of whom have had at least 15 years of experience in safety work. The organization includes outstanding safety leaders from all over the United States.

Coutts has long been prominent in safety work throughout the midwest. For 24 years he was employed by the Middle West Corporation of Chicago and affiliated companies in South Dakota as engineer, load dispatcher, safety director and finally as head of Middle West's Safety Department, Bureau of Safety, in Chicago. For the past seven years Coutts has been director of safety for NSP.

During World War II Coutts

*Charles A. Coutts*

saw service as director, Safety and Health Division, Sixth Service Command, in Chicago for a year, and for two years was exec-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utive officer of the U. S. Air Force ground safety program. He traveled extensively organizing and setting up safety programs for combat air forces in the central and western Pacific theaters. He is a major in the Officers' Reserve Corps.

Coutts attended the University of South Dakota where he studied electrical engineering.

In addition to the Veterans of Safety, Coutts is also a member of the Edison Electric Institute, the American Institute of Electrical Engineers, Society of Military Engineers, and the American Society of Safety Engineers.

# Obituary

### EDISON L. WHEELER

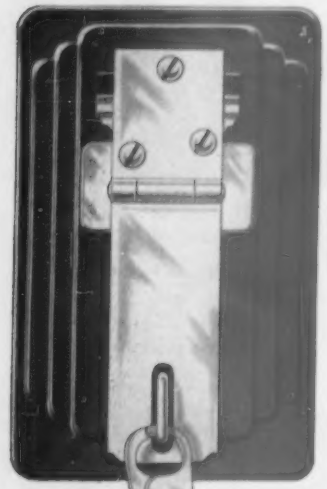
EDISON L. WHEELER, president of Wheeler Protective Apparel, Inc., Chicago, died October 31. He was 68 years old.

Mr. Wheeler was a former member of the National Safety Council's Board of Directors and a former president of the Industrial Safety Equipment Association. His company was a pioneer in the manufacture of protective clothing for industry.

Surviving are the widow, Katherine, and a son, Hudson L., who is associated with the firm.

### D. C. EVEREST

DAVID CLARK EVEREST, chairman of the board of the Marathon Corp., Wausau, Wis., died October 29 in Wausau Hospital. He was 72 years old. Mr. Everest attended the First Cooperative Safety Congress in Milwaukee in 1912 and was one of those who attended the 40th anniversary at the 1952 National Safety Congress. For several years he was a member of the National Safety Council's Board of Directors.

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**CORBIN SESAMEE PADLOCKS** are made of heavy forged brass. All interior parts, brass or bronze. Shackles are case-hardened, zinc plated, and lock at both ends. Write for complete details.

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#### SAFETY DIRECTOR

Safety director, under age 45. Industrial safety experience necessary, mining experience desired. Write giving resume of experience, references, salary expected. Address Box 412, NATIONAL SAFETY NEWS.

#### SAFETY DIRECTOR

To supervise the safety activities of natural gas transmission company. Location: Detroit. Must be willing to travel. Salary open. Include resume of experience and education. All applications treated confidential. Address Box 413, NATIONAL SAFETY NEWS.

## Safety Mission

—*From page 46*

Will L. Tubbs, who for years has been active in safety work nationally and is a member of the National Safety Council's Board of Directors. Each command has its own director of safety.

In FEAF the officer in charge is Col. E. S. Howarth, whose title is Assistant to the Commander. With Colonel Howarth rests the responsibility for both ground and air safety. Deputy assistant for ground safety is Mr. Robert A. Walterschied. It was his work that I was invited to inspect. He has done an outstanding job of program development, promotion, and organization. He has the complete and dedicated support of Colonel Howarth who, in turn, was given more than adequate support by Gen. Earle E. Partridge, then Commander of the Far East Air Forces, who has since been named Commander of the Air Defense Command, Colorado Springs, Colo.

At no time was I represented as a technician in ground safety. This situation calls for the utmost in good management and technical know-how to conserve the available manpower and insure maximum productivity from each operation. There are, however, certain points which even a nontechnical observer can note. For example, the following points were in mind as the several air bases were visited:

**1. Airport and ramp traffic.**

Essentially, vehicles are not allowed to move between the aircraft and the fence line where passengers are apt to be and they must move at moderate rates of speed. Pedestrians and aircraft have the right of way over vehicular traffic.

**2. Aircraft servicing.**

In servicing, trucks are positioned so that they can be quickly removed in the event of a fire, grounding and bonding wires are installed and first aid and firefighting equipment is standing by.

**3. Cargo loading.**

In cargo loading, men lift properly and use more than one man when the load is heavy. Care is taken that mechanical equipment does not damage the aircraft or the cargo; chains or pinch points between belts and rollers on conveyors are guarded.

**4. Airplane and motor vehicle renovation.**

This work of great magnitude is comparable to the manufacture of airplanes and motor vehicles. In fact, some are completely dismantled, repaired, and reassembled. The customary safety program prevails — machine guards, handling and disposition of tools, storage and movement of supplies, lifting, eye protection, etc.

**5. General hangar practices.**

The general hangar practices open to view by the casual observer include tidy housekeeping, the use of clean and substantial work stands and an absence of "horseplay." *(—To page 92)*

**Latest "BERYLCO" Safety Tool Catalog Shows 400 Ways to Curb Dangerous Sparks**

Each of the four-hundred-odd items described in this brand new illustrated catalog is a valuable safeguard against fires and explosions due to sparks. They're all made of "Berylco" beryllium copper, a material subjected to rigorous sparking tests by Factory Mutual Laboratories and given the official stamp of approval.

The "Berylco" line is tailored to your needs—a tool for every type of work to be done near flammable liquids, gases and dusts. Workers like them too, because they are trimmer and tougher than ordinary bronze safety tools. No temptation to risk using a freely sparking steel tool, just to get the job done. This is because beryllium copper enjoys a wide margin of extra strength over other safety tool materials, permitting less bulk and more sturdiness.

In addition to a complete line of standard tools, the catalog lists such new products as shovels, dustpans, saws, and a new series of forged open-end wrenches. Use the coupon to obtain your free copy—and the name of your nearest distributor.

**The Beryllium Corporation**

Dept. 5M
Reading 14, Pa.

Please send me at once a free copy of your new safety tool catalog. I would also like to know the name of my nearest distributor.

Name _____ Title _____
Company _____
Street _____
City _____ Zone _____ State _____

## Safety Mission

*—From page 91*

There was obvious pride among the CO's and their officers and airmen in the safety work. The points noted above were regularly followed. These two factors account for our Award of Honor to the Far East Air Forces. It would be difficult to over-state the competence of Mr. Walterschied and his personnel in the supervision of their ground safety work through the vast area encompassed by the Far East Air Forces.

A problem of considerable proportions is found in the several installations by the employment of civilian nationals. Technical training is required as well as training in accident prevention. This is being solved by translations to the native language of practically all printed materials and other forms of instruction are frequently accelerated and conducted by selected native supervisors. The achievement in this area is highly commendable.

My admiration for those responsible for the Far East Air Force ground safety program is increased at the thought of the fact of turnover in personnel. It is much higher than in private industry and requires a continuing program of training new personnel in terms of local conditions. A problem of considerable proportions is found in the installations where civilian nationals are employed. Technical training along with training in accident prevention is required. This in itself presents a problem in that translation to the native language of practically all printed matters and other forms of instruction is required. In addition, there is the continuous problem of orientating these personnel in the safe practices required for the varied Air Force operations being performed.

After paying my respects to General Partridge and presenting our Award of Honor to him, I followed the schedule prepared for me in advance.

Here is a list of the Commands visited and those subordinate commands which won either our Award of Honor or our Award of Merit:

| *Air Base* | *Air Force* |
|---|---|
| AWARD OF HONOR | |
| 6101st Air Base Wing | Fifth |
| 313th Air Div (20th AF) | 20th |
| AWARD OF MERIT | |
| 67th Tac Recon Wing | Fifth |
| 49th Ftr-Bmr Wing | Fifth |
| 374th Troop Car Wing | 315th Air Div |
| 13th AF | 13th |
| 51st Ftr Int Wing | 20th AF |

While in Japan I spent a day in Camp Zama and presented our Award of Honor to Gen. Lyman L. Lemnitzer. By helicopter we inspected the Army Ordnance Depot at Opama. In Honolulu I presented our Award of Honor to Gen. Bruce C. Clarke, Commanding Officer, U. S. Army, Pacific.

**In the silence of the night**

the watchman makes *his* rounds while the hands on his CHICAGO Watchclock make *their* rounds.

In the morning, there is a permanent dial-record of exactly where the watchman was during each hour...in the silence of the night.

The tamperproof CHICAGO Watchclock system is approved by both THE UNDERWRITERS' LABORATORIES and by THE FACTORY MUTUAL'S LABORATORIES. It gives extra protection against fire, theft and sabotage.

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The first—and still the first

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OFFICES IN PRINCIPAL CITIES

While in the Hawaiian Islands, the American Factors, Limited, took me via Hawaiian Airlines from Honolulu to the Island of Kauai. At a luncheon meeting there held by the Rotary Club and Kauai Safety Council, I presented our Award of Honor to the managers of three sugar plantations. The National Safety Council has 41 members in the Hawaiian Islands.

In Honolulu we paid our respects to Governor King, and I spoke to a fine audience comprised of members of the local chapter of ASSE and the Federal Safety Council. In Mayor Blaisdell's office I presented an award of the American Transit Association to Mr. E. M. de Harne, president of the Honolulu Rapid Transit Company.

In Japan I spent one full day with Mr. Saburo Noguchi, Deputy Minister of Labor, and Mr. Ichiro Ito of the All-Japan Industrial Safety Association and their associates. Under the same auspices I had another delightful and interesting day in Nagoya. I was the guest of honor at a luncheon tendered me by the Japan Safety Institute, Mr. T. Gamo, president. But that pleasant and informative experience is another story for another place.

Throughout the trip I was reminded constantly that the manufacture of flash bulbs has become a big industry. I have been "shot" so many times that it has become a routine part of my work. The trip seemed to accelerate the "shooting" and I was grateful that there was no other kind.

The whole trip was a richly rewarding experience. I am greatly indebted to the Far East Air Force whose courteous consideration insured me comfort, convenience, and pleasure. Wherever I went the National Safety Council was paid high tribute. Our responsibilities are staggering because our influence, our services are respected in far away places throughout most of the world.

"The string is to remind the fellows to report all injuries no matter how minor."

---

Four things come not back—the spoken word, the sped arrow, the past life and the neglected opportunity.—*Persian Proverb.*

---

Gardening is simply a matter of your enthusiasm holding up until your back gets used to it.


INTRODUCING!..
LIGHTWEIGHT, PORTABLE
EXPLOSION-PROOF
FLOOR MAINTENANCE
EQUIPMENT by
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Model No. 315 Vacuum

CUTS CLEANING TIME AS IT PROVIDES SAFETY IN VOLATILE GAS AND DUST AREAS

Chemical plants, paint and starch manufacturers, refineries, distilleries, flour and grain mills—and other industries where electric sparks are a danger but where explosion-proof equipment available heretofore was too large and cumbersome—are now able to cut cleaning time and costs to a fraction. By using interchangeable attachments, a variety of clean-up jobs can be performed with HILD's Explosion-Proof machines, from floor scrubbing to dust and liquid pickup.

HILD EXPLOSION-PROOF WET and DRY VACUUMS

Can be used for cleaning floors, walls, all hard to reach places, such as overhead pipes and beams, ceilings, bins, shelves and machinery, and for removing "floating" dust. Powerful air suction picks up every drop of moisture. Combustible material removed easily and safely. Moisture in air stream cannot damage specially-designed HILD By-Pass motor. Wet and dry pickup accomplished without adjustment or change of filters. Powerful ¼ H.P. explosion-proof motor operates on AC or DC. Safety electric switch by Appleton. Hose and caster treads made of static conductive rubber. Model 306—6 gallon wet or ¾ bushel dry capacities. Model 315—10 gallon wet or 1¼ bushels dry capacities.

HILD CX EXPLOSION-PROOF SCRUBBER-POLISHER

A multi-purpose machine. Used with easily interchangeable attachments to scrub, wax, polish and buff floors of all kinds. Motor and Appleton safety switch are totally enclosed. Bumper and wheels made of static conductive rubber. Spark-proof copper mesh cable used between connector and motor. Brush spread in popular 16-inch size.

These machines are approved by UNDERWRITERS' LABORATORIES

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Company
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NSN-12-55

## Accident-Cause Statistics

—*From page 45*

man got a raise and more money for his department.

His problem, as with many, was that he didn't know how to prepare and submit his accomplishments so that they made the most effective impact. When they were put in dramatic and objective form they produced the desired effect.

In line with this same point, too many people collect statistics merely for the purpose of collecting them, without analyzing the importance of each item and how they plan to use it.

I know one plant where they could tell you anything you wanted to know about everything going on, but that's as far as it went. There was no follow-up, using the information to capitalize on the effort expended.

Best results from the safety standpoint come from revising statistical collection systems periodically in line with your objectives of the moment. To compartmentalize the factors of importance set up a collection system directed at these items. Forget the other miscellaneous garbage.

Several large companies have recently revised their reporting and recording systems, since their monthly accident reports were so bulky and voluminous it was obvious no one ever read them. One 20-page report was cut down to four pages, with very satisfactory results.

*Accident-cause statistics can disclose improper placement of people.*

By comparing statistics and investigating injuries, you can determine if the accident problem involves persons who lack the required skills, knowledge or physical abilities for the job.

For example, you may need more brawn than brain on a certain job, so you wouldn't want to put a little guy on it. If you do put him there, your statistics will point out where you were wrong.

Here we get into the realm of accident proneness, or accident repeaters — if we assume even, that such an animal as an accident-prone one actually exists. It seems to me that if people spent more time worrying about selecting and placing people on jobs they could stop spending so much time worrying about accident repeaters.

*Accident-cause statistics can help establish the existence of improper preventive maintenance schedules and controls.*

Proper cause analysis may show an excessive number of injuries due to failure of machines and equipment, machine breakdowns causing injuries as well as other problems, defects or wear which result in unfortunate situations.

By having this type of double check it's possible to determine needs for certain preventive measures, or the need for improved or more frequent preventive inspections.

*Accident-cause statistics and investigation can disclose inefficiencies in operating processes and procedures, such as poor lay-*

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Heavy duty 18 ga. steel construction.
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Extra heads for remoting from the unit.
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*out or outdated methods and procedures.*

One light fabrication plant was having an excessive number of injuries as a result of materials handling. We initiated a study of materials flow from process to process.

How did materials get from one work station to the next? Was there an orderly movement; was there unnecessary handling; was mechanical handling being used wherever possible; was there unnecessary back-tracking or criss-crossing of supply lines that could be straightened out?

The result was a rearrangement of power presses and automatic screw machines which cut materials movement and handling almost in half.

Reduction of injuries was not the primary motive for making these changes. But proper analysis and comparison of accident-cause statistics initiated the study of operations which brought out the savings which would result from the changes made. The safety problem was automatically brought under control by improved operations.

This type of case backs up my belief that if you set up efficient job methods and operations, you can forget about safety, except for personal factors which need constant attention.

A similar case involved an excessive number of strains and sprains in a department where large rolls of paper had to be placed in machines for printing and cutting.

By analyzing operations, an overhead trolley type hoist arrangement was installed making all movement and lifting of the rolls power operated. This simplified and speeded up operations. It also reduced the number of strains and sprains. Comparison of local statistics with national statistics helped initiate this action and improvement.

*Accident-cause statistics can be used in promotions of a public relations nature.*

...To show that a particular place is a good-and-safe-place to work.

...To show that management is interested in the health and welfare of its workers in the community.

...To generate good will via newspapers, radio, television, and personal contact, comparisons of local with national statistics can be made.

Many of the largest corporations take full-page advertisements in national magazines, take time on national TV and radio programs, to publicize better than average safety accomplishments.

*Future safety planning and budgeting is aided by using accident-cause statistics.*

If there is an excess of injuries involved with a specific operation or process, which will involve a considerable capital expenditure to control, it may be necessary to plan a future program and budget future funds accordingly.

Even if records do not show a problem, state or country-wide accident-cause statistics may indicate the potentiality of serious occurrences and require planning


sellstrom safeguard --of the Month

"DEPENDON" Acetate Shields

Protect Face and Eyes without obstructing view

•

A SELLSTROM ORIGINAL—
Light — Safe — Comfortable

No. 326—This series protects not only the front but the sides of the face, neck and ears. Greater strength and durability and more protection is possible because of the extra large window, sturdy crown and vulcoid headband. A replaceable genuine leather sweatband is included.

There are numerous uses for "DEPENDON" shields. Many models are available that provide proper protection for eyes and face when pouring liquids or metal, handling chemicals, grinding, chipping, buffing, and other eye-hazardous operations. Can also be worn over safety goggles and personal glasses.

The windows are detachable and are easily replaced. Clear, green and smoked green windows available. All models have an adjustable pivot arrangement to hold the window in any position.

FOR COMPLETE information and prices on the various models of "DEPENDON" Shields with Acetate Windows, write direct for brochure **No. 32C.** Or ask for catalog **No. 32** for information on Fibre Glass and Fibre Welding Helmets, Goggles, Respirators and other Sellstrom Safeguards.

Sold through better distributors everywhere.

Sellstrom Manufacturing Co.

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or special budgeting for control.

Where special programs are planned with regard to eye protection, or a safety shoe program, or a physical examination plan, it is necessary to outline the future activities and budget funds necessary to effectively carry out the plan.

Accident-cause statistics may indicate need for an accident-cost analysis to see if the cost of certain accident-control measures can be economically justified.

Studies such as this must include all the direct and indirect, tangible and intangible, insured and uninsured items that are pertinent. Such things as damaged machines and equipment, damaged materials, production delays, machine down time, time lost by others than the injured, treatment and compensation costs, replacement and retraining costs, et al.

Even though safety is involved, it is essential to justify a profitable expenditure of funds to control injuries.

Proper use of accident-cause statistics will enable supervisors to use the time available for safety work to the greatest advantage by providing them with information about the principal hazards and unsafe practices in their departments.

The good safety man will feed the supervisors this type of information to help them concentrate on single objectives, or the most pertinent ones.

There is nothing hit-or-miss in modern accident prevention techniques. A good safety man must be partly a personnel man, an engineer, a psychologist, a statistician, a private eye, a cost analyst, a public relations man, an employee relations man, a training specialist, a methods and job analyst, a budget planner, and a technically qualified expert on industrial hygiene and other specialties in his field.

The basic concept of the whole subject is, "Let's learn and plan by reviewing the mistakes of others."

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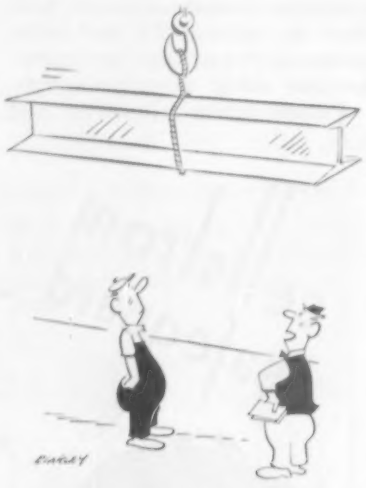

"I wouldn't stand under a loaded overhead crane, Mac. The company hates to lose a trained worker."

---

"Unfortunately . . . less than one-tenth of one per cent of the population in these United States is made up of professional mind readers. . . . Signaling (turns or stops) is more than just a courtesy. It's a life-saving necessity." —*National Motorist.*

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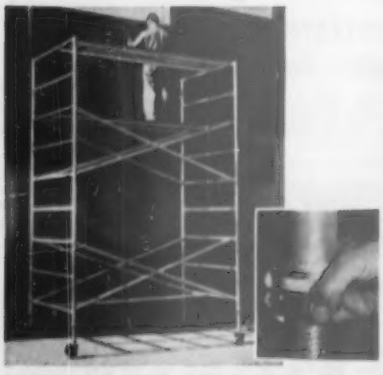
# Aluminum Scaffolds . . .

by The Patent Scaffolding Co.



**NEW 4'6"-WIDE LADDER SCAFFOLD**

This 4'6"-wide aluminum ladder scaffold provides added stability and extra working room for painting, cleaning, relamping and general maintenance jobs. Base section is 6' high. Other heights are achieved by combining other ladder units of 4' and 5'4", and using 24" leg adjustment (inset). Leg adjustment (on all three Scaffolds) is built in and gives safe, positive height adjustment without lifting scaffold. Two quick turns raise or lower one full inch. Diagonal braces give 6', 8' or 10' spans. Smooth-rolling rubber-tired casters. Write The Patent Scaffolding Co., Inc., 38-21 12th St., Long Island City 1, N. Y., Dept. NSN.

**2'-WIDE LADDER SCAFFOLD**

Has same features as 4'6"-wide scaffold, but is only 2' wide. Ideal for maintenance work in narrow hallways and aisles. Rolls right through standard 30" doorway. Can be used with diagonal braces to give spans of 6', 8' or 10' platform. Compact—parts lie flat and take up little room. Write The Patent Scaffolding Co., Inc., 38-21 12th St., Long Island City 1, N. Y., Dept. NSN.

**SCAFFOLD OPENS LIKE A BOOK**

One man can erect the base section of the "Fold-A-Way"* Scaffold in less than a minute. End frames swing open sideways, while the base section is in a standing position, making an easily managed swing of about 90°. Adding additional 6' sections takes just a few minutes. Basic unit is 4'6" x 6' and is 7' high including rubber-tired casters. Ball bearing extension legs permits height adjustment up to 24". Approved by Underwriters Laboratories, Inc. For more information write The Patent Scaffolding Co., Inc., 38-21 12th St., Long Island City 1, N. Y., Dept. NSN. (*Trade Mark)

## What's Cookin'

*—From page 40*

council's S-D Day activities in 1954; and to the Safety Division of the Syracuse Chamber of Commerce, Newell C. Townsend, manager, for its Central New York Safety Congress and Exposition.

Winners in the Inter-Council Plant Safety Contest were:

First-place plaques to the Delaware Safety Council, J. James Ashton, manager; and to the Hamilton Safety Council, W. Russell Hicks, director.

Third-place certificate to the Safety Council of Western Massachusetts, Victor J. Mari, executive director.

Winners in the Inter-Council Fleet Safety Contest were:

In Group I, the first-place plaque went to the Middletown Safety Council, Paul E. Wilson, director; the second-place certificate to the Safety Council of the Chamber of Commerce of Fort Wayne, Ivan A. Martin, manager; and the third-place certificate to the Hamilton Safety Council, W. Russell Hicks, director.

In Group II, the first-place plaque went to the Safety Bureau of the Duluth Chamber of Commerce, George A. Nothhelfer, safety director; the second-place certificate to the Spokane Area Safety Council, E. M. Gearhart, Jr., managing director; and the third-place certificate to the Greater Cincinnati Safety Council, Capt. Raymond E. Clift, executive director.

### Operating Policies Adopted

The Conference of Local Safety Organizations of the National Safety Council has formally adopted, and the NSC Board of Directors has approved, the following general operating policies for NSC chapters and affiliated local safety organizations:

This Council shall operate as a non-profit, non-political organization devoted exclusively to accident prevention.

This Council shall represent all major community interests and serve no special interests.

This Council shall work closely and cooperatively with official agencies having legal responsibility for safety. It shall avoid public criticism of public officials. It shall rather put forth positive, constructive plans for improving safety conditions and shall actively work for their application.

This Council shall encourage and help all responsible local agencies, organizations, groups, and individuals to engage in accident prevention activities within their spheres of influence.

This Council shall not endorse any commercial product or enterprise.

This Council's program shall be based upon competent analysis of the accident problem in the area served with major attention given to major needs.

This Council shall have a written statement of its objectives and operating policies.

This Council shall make a formal appraisal of its operations, in terms of objectives and program goals, at least annually.

The above statement will be printed suitably for framing and distributed to each of the chapters as local council boards formally adopt the policies.

### Estel Hack Honored

Estel Hack, executive vice-president of the Louisville Safety Council, Inc., is now a member of the Kentucky Safety Board of the Industrial Relations Department of the Commonwealth of Kentucky. There are four members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with Bemis TRANSWALL

Reduce Factory NOISE as much as 22 Decibels

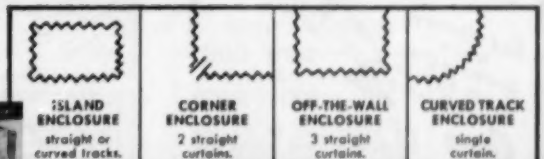
NOISE IS COSTLY . . . control it with TRANSWALL. Here's the new *low cost* sound barrier that isolates noisy areas *anywhere* in your factory, yet readily retracts for materials movement. TRANSWALL is flame resistive for safety.

TRANSWALL SOUND BARRIER INSTALLATIONS are custom engineered by qualified acoustical contractors. Some installations show direct reduction of 22 db in "open" and "closed" readings; even more in "before" and "after" readings. TRANSWALL is particularly effective in stopping higher frequencies.

TRANSWALL is easy to install. Nylon rollers support the curtain in overhead track. Layouts may be readily changed to suit new floor plans, yet noise reduction is great enough to make 95% of factory areas *noise-safe*.

A FEW TRANSWALL LAYOUTS . .

A TRANSWALL curtain 20 ft. wide retracts to only 2 ft.!



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Forehead operation leaves hands free to open eyelids so water can be directed wherever chemicals might be lodged. Sanitary white baked enamel bowl is resistant to most fumes.

Over 500 industrial plant installations have been made to date.

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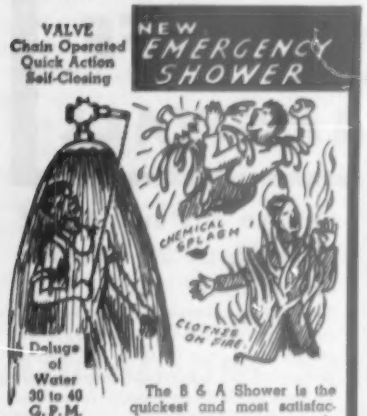
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NEW EMERGENCY SHOWER
CHEMICAL SPLASH
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Deluge of Water 30 to 40 G.P.M.

The B & A Shower is the quickest and most satisfactory way to saturate a worker with gallons of water the instant an accident occurs, to prevent a disfiguring burn—even a fatality.

Special shower head, no holes to clog—can be used where unfiltered water prevails.

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GLASS SLIVERS AND CHEMICAL IN EYES!
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CUTS AND CHEMICAL BURNS ON ARMS AND BODY!
THIS HAPPENS WHEN UNPROTECTED GLASS BOTTLES ARE BUMPED
NEW LOW COST B & A SAF-T-BAGS

are widely used for the safe handling of glass bottles containing harmful chemicals; also the storage and recovery of expensive serums, biologicals, and other costly products.

Painful cuts, disfiguring burns, loss of eyesight, or even a fatality, do result from corrosive liquid splash and flying glass when unprotected bottles shatter.

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1 GALLON
5 GALLON

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on the committee, two representing industry and two representing labor.

Captain Hack is one of the industrial members. He will serve for a period of three years. He was named for this important post by the Governor.

## Chapters Added

Two new local safety organizations were added to the roster of National Safety Council chapters by action of the Conference of Local Safety Organizations and NSC Board of Directors in October.

The Chattahoochee Valley Safety Council with headquarters in West Point, Ga., has been in operation for more than one year. Joseph L. Lanier, president of the West Point Manufacturing Company, and member of the Board of Trustees of the National Safety Council, is president of the local council. Earl Edwards is managing director.

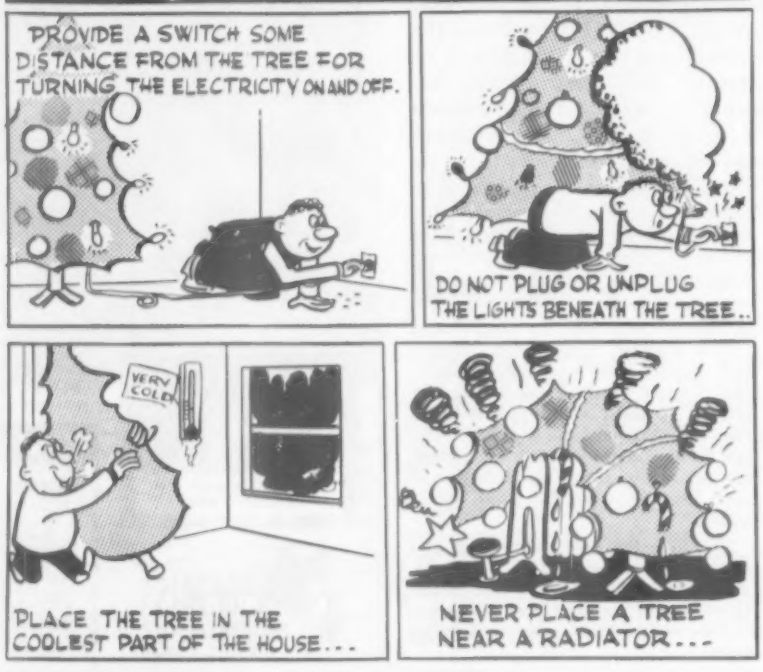
The San Diego County Traffic Safety Council was organized several years ago to combat traffic accidents. Its bylaws were recently amended to enable the organization to engage in all areas of accident prevention. Ronald T. Strong, Electric Supplies Distributing Company, San Diego, is president of the council, and David Thompson is executive director.

## Kallenbaugh Heads Oregon Division

G. Scott Kallenbaugh has assumed his new duties as director of the Accident Prevention Division of the State Industrial Accident Commission of Oregon. He was formerly the assistant superintendent of the Division of Safety and Hygiene of Ohio and has been in accident prevention work for the past 25 years.

For the past four years, Kallenbaugh has been an active member of the Industrial Conference of the National Safety Council and is prominent in ASSE activities. As chairman of the Safety Codes steering committee of Ohio for four years, he directed extensive re-writing and writing of safety codes by labor and management representatives.

# FIRE FLASHES


PROVIDE A SWITCH SOME DISTANCE FROM THE TREE FOR TURNING THE ELECTRICITY ON AND OFF.
DO NOT PLUG OR UNPLUG THE LIGHTS BENEATH THE TREE..
VERY COLD
PLACE THE TREE IN THE COOLEST PART OF THE HOUSE...
NEVER PLACE A TREE NEAR A RADIATOR...

## Shippers Adopt New Safety Standards

NEW YORK SHIPPERS have voluntarily adopted new minimum safety standards for stevedores, it has been reported in Washington.

The standards were developed in cooperation with the U. S. Labor Department's Bureau of Labor Standards and presented to the department by representatives of the New York Shipping Association at a meeting in the capital.

Present were Capt. G. H. E. Buxton, the association's safety director; H. S. Webb, Jr., vice-president of T. Hogan & Sons; Capt. M. Williams, operating manager, A. H. Bull Steamship Co., and Paul E. Gurske, director of the Bureau of Labor Standards.

The new standards encourage safe practices and seek to eliminate work hazards and health risks in longshoring including rigging operations to load and unload ships.

New York becomes the first U. S. port to adopt recommended safety standards for its industry. The adoption climaxes a five-year cooperative safety campaign between the government and New York shippers. The Labor Department said the effort has resulted in a 14 per cent reduction in work injury frequency. Last year the association received a National Safety Council plaque for the promotion of industrial safety.

Early in the five-year campaign, the shipping association established a safety and workmen's compensation insurance committee with five field safety men who "police" unsafe conditions and practices and report them as guides to corrective action by the companies concerned. Safety meetings of supervisory personnel are held by shippers with the help of association safety men. The Labor Department assists longshoring unions in holding similar meetings and provides safety material and visual aids for both types of gatherings.

---

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the new basic material, all in one piece (including channels), not welded, riveted or expanded in steel or aluminum, in standard sizes and gauges. Safety GRIP-STRUT presents an open space, in a diamond pattern, in excess of 55% of the area for ready access of light and air and gives a positive NON-SKID footing in all directions. Ideal for work platforms, stair and ladder steps, flooring, balconies, catwalks, machinery guards, fire escapes and for original equipment safety treads.

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Important Safety Features

★ Fire proof
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Big Economy Features

★ For balconies — no extra light needed below — no extra heat.
★ No extra supports necessary — channels are integral part of the material
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★ Cut and installed like lumber by your own maintenance force
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## Outfitting Cranes

*—From page 31*

that scaffolding or ladders are not required.

Repair platforms are generally provided by the mills so that periodic maintenance and major overhauls can be accomplished more safely. Stairs are used where possible, but if clearances dictate the use of ladders, they are provided with safety hoops. Stairs and walks are provided with nonskid plates or gating and sturdy handrails.

Other safety features include the use of double shoes and double conductors, enclosed conductor systems, special conductor systems, adequate lighting, fire extinguisher holes in junction boxes, and the use of minimum wire sizes for power and control circuits.

Steel mill cranes are custom-built and engineered, and most mills have their own safety requirements which must be built into the crane. The Association of Iron and Steel Engineers also has minimum standards.

One of the greatest safety devices is not built into the crane, but is furnished by the user—proper inspection and servicing. A ladle that is dropped as a result of gearing that has never been lubricated or inspected is as bad as a ladle dropped by over-hoisting with no limit switches. Maintenance personnel have the opportunity, in many cases, to wire around or otherwise disable many safety devices—"just to get it going until the proper repairs can be made." Many accidents have resulted from this practice.

Inspection and servicing are beyond the control of the crane designer. However, the designer has a duty to emphasize continually the importance of proper safety practices. The designer also is obligated to refrain from making operation difficult, uncomfortable, or more expensive because of too many or unnecessary safety devices, as this often results in a temptation on the part of the user to by-pass them.

The future of safety devices for steel mill cranes will center around increased visibility for the operator, greater control of the higher speeds, and warning and communication devices. Power circuit devices are already widely used to provide more positive and dependable operation and the tendency always has been to keep the power circuit as free from complexity as possible. Control circuits are being refined to provide smoother slow downs when limits are being approached. Enclosed conductors will be used more extensively in the near future. The use of industrial television to increase visibility has been considered.

The automatic factory will first require high-speed operator-controlled cranes. Here the problem will be accurate control of the high levels of kinetic energy. As speeds become higher, provision will have to be made to require less of the operator's attention to each single motion—this will necessitate more accurate control and more safety devices. After this point is reached, the transition will be made to pulpit control of cranes together with other machines. (Pulpit control of a semi-automatic type has already been contemplated for billet cranes for blooming mills.)

The day will probably come when cranes operate completely automatically. Full automation will require a multitude of limit stops and signal devices, but the maintenance should be greatly simplified because with expensive and complex machinery and carefully controlled schedules, top performance must be maintained through preventive maintenance.

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## Note Progress in Mental Therapy

More men than women are hospitalized for mental disorders in the United States, according to a report by statisticians of the Metropolitan Life Insurance Company. During 1951, the most recent year for which figures are available, about 95,000 males and 76,000 females were admitted for the first time to mental hospitals.

For both males and females, the rates for first admission to a hospital are lowest at the younger ages and highest among the aged. About half of all patients admitted to a mental hospital for the first time during the year

were under 45 years of age, only one tenth were under age 25, and less than 1 percent were under age 15.

Progress in the treatment of mental disorders is evidenced, according to the report, by a substantial increase in recovery rates as reflected by a higher proportion of releases from mental institutions.

An example is cited in the experience of one hospital where nearly three fourths of the patients first admitted in 1946-50 for functional psychoses were released within three years, while the corresponding proportion for similar patients first admitted in 1916-25 was little more than one half.

### Develop Leather Standards

The American Leather Chemists Association, an organization of technical people from the leather industry, is joining forces with the American Society for Testing Materials in establishing a joint committee on development of leather standards. The organizing group, which met at ASTM Headquarters in Philadelphia, October 12, under the chairmanship of M. Maeser, United Shoe Machinery Corp., includes Malcom Battles, A. C. Lawrence Co., Alfred M. Compton, E. F. Houghton & Co.; Joseph Kanagy, National Bureau of Standards; Arthur M. Kay, Howe's Leather Co., Inc.; and R. J. Wirshing, General Motors Corp.

This group, enlarged with representatives from several other interests in the leather industry, will meet again in the near future to complete the organization of a joint ALCA-ASTM Committee on Leather. For the present, efforts will be limited to development of physical test methods.

The ALCA for a number of years has been actively engaged in the development of testing methods. These methods have been closely coordinated with those of the Federal Government.

It is expected that the joint activity will result in the development of test methods which will have wide utility and acceptance in industry and commerce.


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NOW... for work levels up to 15 feet high

Ballymore all-welded-steel Safety-Step Ladders available from one to twelve steps. Over 100 models to choose from. Portable—they roll. Up to 9 steps, they automatically lock to floor when you step on—9 steps and over, they have step-on brake casters at front. Send for catalog. The Ballymore Company, Wayne 17, Pa.

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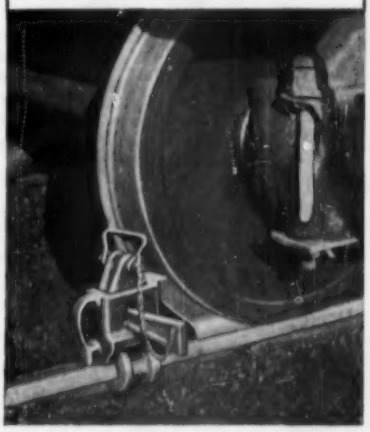

*It can be done at very little cost . . . by using the M & M Rail Clamp to hold cars in place.*

Why does the M & M Rail Clamp reduce danger of costly accidents and derailments? Because it will not slip—it holds cars in immovable position. This has been proven innumerable times, even in heaviest industries.

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ANY safety hat protects the wearer *only* while it is worn. The GENTEX safety hat is specially engineered for maximum comfort to assure *full time* wearing for *full time* protection.

Only the GENTEX has a resilient, contoured plastic headband that shapes itself to the head, exerting no pressure even after a full shift's wear. It's lightweight . . . and cool even under the hottest sun.

It *really* protects! Tough GENTEX safety hats exceed all Federal specifications as well as standard mechanical, electrical and fire tests for protective headgear.

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## When Dust Explodes

—*From page 29*

action. Laboratory work has shown that the initiation and progress of a dust explosion are products of many forces and that factors existing at any particular instant can change entirely the nature of that particular flammation.

In some laboratory tests with aluminum powder at relatively high concentrations the time-pressure curve shows a very early acceleration to an extreme rate of pressure rise approaching detonation rates. This sharp upturn in the time-pressure curve and the difference in both shape and magnitude indicate the presence of an explosive gas mixture. Both aluminum and magnesium produce this type of time-pressure curve, and since both dusts vaporize readily upon heating it is believed that the explosions, particularly at high concentrations, are ignitions of vapor in air.

At the other end of the scale are dusts that do not ignite readily in air, have very slow rates of flame propagation, and produce little or no pressure. Some laboratory tests have been made with such dusts in atmospheres having a greater amount of oxygen than is present in air, and in certain instances relatively high pressure has been developed. Information on explosive characteristics under such conditions is helpful to operators who may be considering blending such dusts with other powders or handling them in the presence of oxidizing agents.

Just as the explosion hazard can be increased by providing more oxygen, the hazard may be reduced by limiting the oxygen available for combustion. Many operators have taken advantage of this fact by introducing carbon dioxide, nitrogen, or other inert gases into enclosed grinding, mixing, and processing apparatus to replace part or all of the air normally present. In some pieces of equipment providing an inert atmosphere is the only way to obtain complete protection against the explosion hazard because explosive concentrations of dusts are always present and metallic sparks, static sparks, or frictional heat may be present at any time.

Numerous laboratory tests have been made to determine the oxygen reduction necessary to prevent ignitions of different types of dust. When carbon dioxide or nitrogen is used to create the inert atmosphere a reduction of the oxygen to 12 or 14 per cent is usually enough to prevent explosions of carbonaceous dusts caused by ordinary sources of ignition.

For some other types of dust it may be necessary to reduce the oxygen to two or three per cent. In extreme cases, where the dust, such as magnesium, will burn in carbon dioxide and combine with nitrogen to form nitrides, it is necessary to use helium or argon to create the inert atmosphere. The oxygen reductions recommended for a number of dusts are given in a code covering the use of inert gas for preventing explosions.[2]

It is sometimes possible to use incombustible materials instead of inert gas to reduce or eliminate a dust-explosion hazard. In the classification of explosive dust the relative flammability is usually given as a percentage figure, such as 60, 80, 90+, indicating the amount of incombustible dust that must be added to the explosive dust to prevent ignition and flame propagation through a dust and air mixture. Calcium carbonate, diatomaceous earth, and similar materials are sometimes used as diluents to reduce the concentration of an explosive dust below its lower explosive limit. Use of this is quite limited because in industries such as flour milling, starch grinding, confectionery manufacture, and other food or feed-preparation plants the addition of such material would be considered adulteration and violation of regulations and laws governing pure foods and feeding stuffs.

The principal field in which incombustible dust can be used is in grinding or processing a dust or powder that later will be blended with other materials some of which are incombustible. Where the process can be rear-

ranged to permit grinding or processing the combustible and incombustible dusts together it is sometimes possible to eliminate or greatly reduce the dust-explosion hazard.

Finely divided limestone has been used for many years for rock-dusting coal mines. This operation, which consists of blowing the inert dust onto the roof, sidewalls, and other areas of a mine, is designed to provide a sufficient quantity of the diluent to keep the coal dust below its lower explosive limits if any dust clouds are formed. Irving Hartmann has found in his experiments in the Bureau of Mines laboratories at Pittsburgh that many chemical compounds may be better suppressors of coal-dust explosions than limestone. These include sodium and potassium halides, sodium bicarbonate, calcium sulfate, sodium sulfate, various oxidizers and other compounds, halides, fluorides, iodides, bromides, and chlorides.

None of the materials mentioned is normally as readily available or attainable as limestone dust for use in coal mines, but all may be available as products, by-products, or waste products at chemical plants and could be used as diluents where deposits or accumulations of explosive dusts may occur.

An allied field of interest deals with the development of dusts, powders, or dry chemical compounds that will serve as fire extinguishers. As a rule, such developments are applicable only to fire extinguishing and cannot be used to stop an explosion after flame propagation has begun.

There are a few limited applications, however, where an inert dust can be introduced into a small duct line to check an explosion, and some attempts have been made to utilize the initial pressure of an explosion to check propagation by dispersing inert dust clouds ahead of the flame wave. Such forms of protection are usually highly specialized applications.

## Safety Codes

The Dust Explosion Hazards Committee of the National Fire Protection Association has prepared a number of codes or standards with specific recommendations for explosion prevention or protection in different types of industry. There is also a publication of the NFPA,[3] *Fundamental Principles for the Prevention of Dust Explosions in Industrial Plants*, that contains general recommendations for those plants for which no specific codes are available.

Operators of plants producing or handling explosive dusts should follow these recommendations wherever possible, and in cases where compliance does not seem to be practicable engineers familiar with dust-explosion problems should be consulted. If there is any question about the explosibility of the dust or product being manufactured, samples should be tested to determine the


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flammable properties and explosive characteristics.

It is usually safe to assume that all recognized explosion prevention and protection measures should be adopted wherever explosive dusts are produced or handled, but each operation or process should be given special consideration. In some instances where only minor initial ignition hazards are present careful operation and good housekeeping to prevent flame propagation beyond the original ignition area may be all the protection needed.

In other instances complete protection in the form of inert atmospheres, batch or other forms of controlled production, segregated or remotely controlled equipment, and automatic explosion vents may be necessary to provide the desired protection for personnel and property.

## Venting

Although the dust-explosion-prevention codes or standards stress the advantages of preventing the formation of dust clouds and eliminating sources of ignition, virtually all of them recommend the installation of vents to provide protection through the release of explosion pressure at locations where it is difficult or impossible to be certain that the measures adopted for explosion prevention will be 100 per cent effective.

Essentially, explosion vents are openings or weak sections in equipment enclosures or the walls of rooms or buildings designed to fail under explosion pressure before such pressure becomes high enough to cause structural damage. Certain factors govern the design of vents, and the installation of such equipment is a specialized job that should be entrusted to someone familiar with all factors involved. It may be well, however, for plant operators to be familiar with the fundamental principles of explosion-pressure release and some of the devices that have been developed to provide this form of protection.

The factors of prime importance that should be considered in providing for explosion venting, as listed in the Explosion Venting Guide[4] are:

1. Strength of the structure or enclosure.

2. The maximum explosion pressure and the average rate of pressure rise of the explosive material.

3. The positions of the vents with respect to the point of origin of the explosion.

4. Bursting strength of the vent closure or the minimum pressure required to open the vent closure if movable as a whole.

5. The inertia of the vent closure.

## Open Vents

Obviously the most effective vent for releasing explosion pressure from equipment, enclosures, or buildings is an unobstructed opening, but there are comparatively few operations with inherent explosion hazards that can be conducted in open equipment installed in buildings without walls. Usually some form of vent closure must be provided to protect against the weather, conserve heat, bar unauthorized entry, preclude dissemination of the material being processed, or prevent contamination of the product by dirt or moisture from outside.

Open equipment is recommended wherever it can be used without creating a more serious explosion hazard through dispersion or dissemination of the material being processed and where it is unnecessary to provide closed equipment to prevent contamination of the material.

Weather conditions and the need to prevent unauthorized entry are usually the controlling factors governing the use of buildings without walls or with large apertures. In warm climates where building walls are not necessary to meet heating requirements, large, overhanging eaves can be provided to keep rain from entering the open sections of the building, and unauthorized entry can be prevented by locating processes that require open-wall venting on upper floors of the building.

**Louvers.** Although openings in which louvers are installed cannot be considered completely unobstructed vents, such installations provide a large percentage

of free space for releasing explosion pressure and have served effectively as vents in a number of instances when explosions occurred in industrial plants. They are recommended especially as wall vents where windows are not needed and where tight walls are not required to maintain controlled atmospheric conditions within the enclosure. Louvers can be used effectively as vents where it is necessary or desirable to prevent unauthorized entry or egress.

**Hangar-type doors.** Large hangar-type or steel curtain doors installed in side walls of rooms or buildings can be opened to provide unobstructed vents during the operation of any process or equipment in which there is an inherent explosion hazard. Such doors can be closed to prevent unauthorized entry when the equipment is unattended or not in operation. This type of venting has been found effective and is highly recommended, but in cold climates supervisory control is sometimes necessary to prevent employees sacrificing safety for comfort by keeping the doors closed during operations.

**Open roof vents.** Large roof openings protected by weather hoods can be provided on one-story buildings or the top story of a multiple-story building to serve as explosion vents. This type of venting can be very effective, particularly where there is a possibility that lighter-than-air gases may escape from some processing equipment and create an explosion hazard near the ceiling of an enclosure. In addition to serving as vents for the release of pressures should an explosion occur, such roof openings reduce the possibility of explosion by providing a channel through which the gas can escape from the building.

Roof openings permit large quantities of warm air to escape during normal operations and are not extensively used in cold climates. All types of weather hoods reduce the effectiveness of such vents, and hoods should be as light as possible and attached in a manner that will permit them to be blown away quickly if an explosion occurs.

## Closed or Sealed Vents

Closures for building vents are necessary in air-conditioned plants or where heat is provided for the comfort of occupants during all or part of the year, and vent closures are required on processing equipment whenever it is necessary to provide for the retention of dust or gas or where processes are conducted under pressure, vacuum, or other controlled atmospheric conditions.

Some types of vent closures are commercially available and may be purchased ready to install. Other types have been developed by plant engineers or maintenance men to meet some specific need.

Doors, windows, skylights or monitors, roof or wall panels, and numerous types of diaphragms of plastic, foil, cloth, paper, etc. have been used successfully as vent closures. Equipment can be selected or designed to meet specific needs, remembering always that the fundamental principle in the selection of any vent closure is that it will open quickly and automatically under increased pressure from within to provide a channel through which an explosion can be released without damage to building or equipment.

Many associations, organizations, and individuals interested in dust-explosion prevention, protection, and the release of explosion pressure, through participation in the work of the technical committees of the National Fire Protection Association, have contributed to our present knowledge of these subjects, and the codes that these committees have prepared represent the best recommendations that can be made for the control of the dust explosion hazard.

The Dust Explosion Hazards Committee has prepared 17 codes for preventing dust explosions in various industries, and the Committee on Explosion Venting has prepared a set of recommendations which are incorporated in the Guide for Explosion Venting, previously mentioned. Both the dust-explosion-prevention codes and the Venting Guide have been

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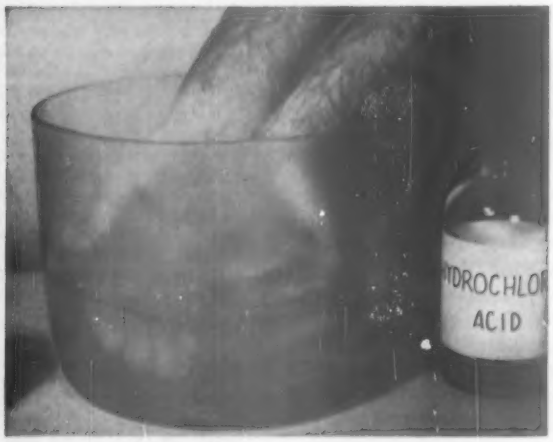


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"Kerodex" provides really effective protection against the many skin irritants encountered in industry. It spreads on like a cream but acts like a glove that is invisible yet strong and as elastic as the skin itself. Does not smear. Does not affect materials handled. Write for full information on "Kerodex"® barrier creams to Ayerst Laboratories, 22 East 40th Street, New York 16, N. Y. 5552

incorporated in the 1954 edition of the National Fire Codes, Vol. II, available through the offices of the National Fire Protection Association.

1. Technical Bulletin 490, Explosibility of Agricultural and Other Dusts as Indicated by Maximum Pressure and Rates of Pressure Rise. Paul W. Edwards and L. R. Leinbach, U. S. Department of Agriculture. October 1935—24 pp.

Report of Investigations 5052, Laboratory Explosibility Study of American Coals. Irving Hartmann, Murray Jacobson, and R. P. Williams, Bureau of Mines. 1954—8 pp.

Report of Investigations 3751, Inflammability and Explosibility of Powders Used in the Plastics Industry. Irving Hartmann and John Nagy. May 1944—38 pp.

2. Code for the Use of Inert Gas for Fire and Explosion Prevention, N.F.P.A. No. 69 (Formerly No. 12A), 8 pp., 1941. Tentative Standards for Fire and Explosion Prevention by Inerting, NFPA No. 69-P, 42 pp., 1955. National Fire Protection Association, 60 Batterymarch Street, Boston 10.

3. National Fire Protection Association, 60 Batterymarch Street, Boston 10. Pamphlet No. 63—8 pp. 1948.

4. Guide for Explosion Venting, NFPA Pamphlet No. 68, 1954, obtainable from the National Fire Protection Association, 60 Batterymarch Street, Boston 10.

## Council Recommends Auto Seat Belts

A STATEMENT of policy concerning the use of automobile seat belts was adopted by the Traffic and Transportation Conference of the National Safety Council at its meeting on October 16, and affirmed by the Board of Directors at its meeting October 18. The statement follows:

The National Safety Council recommends the use of seat belts in motor vehicles. The Council recognizes that seat belts will not prevent accidents, but can only reduce the severity of injuries in certain types of motor vehicle accidents.

The Council recommends that seat belts meet or exceed standards of the Society of Automotive Engineers and/or the American Standards Association. All belts should be installed in such a manner as to withstand the full loading recommended by the Society

of Automotive Engineers and/or the American Standards Association standards, with only one person restrained by each belt.

The Council recommends that existing research projects in this area be continued and expanded to develop additional evidence on the effectiveness of seat belts and other means of reducing injuries in traffic accidents.

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## Motorcycle Accidents Cause 1000 Deaths Yearly

Accidents involving motorcycles account for approximately 1,000 deaths yearly in the United States, statisticians of the Metropolitan Life Insurance Company report.

About 800 of these deaths result from injuries sustained by motorcyclists or motorcycle passengers, and most of the remainder are among pedestrians. In addition, a few deaths each year occur among riders of bicycles and occupants of automobiles in collisions between these vehicles and motorcycles.

In the life insurance company's experience among its industrial policyholders, the highest death rates from motorcycle accidents, as might be expected, are among young males—ages 15 to 24.

Somewhat over half of the policyholders fatally injured while riding motorcycles died as a result of collisions with automobiles, trucks, or other motor vehicles. An additional two fifths lost their lives when their motorcycles overturned or ran off the road; in the latter event the riders sometimes hit trees, posts, or fences. The remainder of the death toll resulted from motorcycles colliding with bridges or obstructions on the highway.

The yearly loss of life could be appreciably reduced, the statisticians note, if motorcyclists exercised greater caution against traffic hazards, especially hazardous road conditions such as wet and icy surfaces, ruts, and loose gravel.

---

In Sweden, local police are using helicopters on an experimental basis for detecting traffic offenders.

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DRY TAMP
PERMA Mix Floor Patch
Don't stop traffic to repair floors—use Permamix, the new all-temperature DRY TAMP floor patch.
DRY TAMP MEANS SPEED • No sticky mass to dig out of the drum or to handle • Permamix dry pours • sets instantly • feather edges perfectly • no production delays • non-skid surface.
ALL TEMPERATURE • Won't freeze • can be stored or used in any temperature • will store indefinitely • a stock room item • will not "set" in drum whether open or covered. Mistakes just can't happen. Tamp in place and traffic rolls.
CUTS MAINTENANCE COSTS on concrete, brick, tile or asphalt floors • no special equipment or skill needed • a one man job • comes in durable 50 lb. net wt. fibre drums • solve your floor patching problems for good.
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MAXIMUM PROTECTION—against the hazards of buffing, polishing, grinding, plating, scaling; flesh, butt and spot welding; hot-liquid splash, acids or chemicals.
YOUR DOCKSON DISTRIBUTOR—a selected specialist, stocks a complete line of Dockson Products to give you fast service and personal attention. We back our distributors 100%.
WRITE FOR YOUR DISTRIBUTOR'S NAME AND OUR COMPLETE CATALOG OF HEAD AND EYE SAFETY EQUIPMENT
Dockson CORPORATION
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## Testing

—*From page 25*

combustion engine analyzer.

Special equipment for use in wide field "three-dimension" motion picture projection.

Traveling infra-red ovens for the car repainting industry.

Radiant panel heating for buildings.

FIRE PROTECTION DEPARTMENT:

Light-weight aggregates and concrete for protection of steel columns, floors, ceilings, and walls.

Wetting and penetrating agents for addition to water to form a fire-extinguishing medium.

Automatic control of internal combustion engine-driven fire pumps for service in areas without electrical power.

Plastics have graduated from the three-cornered-pants phase. They are being accepted as building materials: reinforced with glass fiber formed into corrugated panels, they are installed as decorative partitions in stores, and are replacing glass in the windows and skylights of factories; sheets or panels are suspended from ceilings of offices and schools as light diffusers; and, bonded to fabric, are used for wall coverings in hospitals and homes.

Since plastics can line the interiors of many offices, factories, hospitals, and homes, firemen and building officials should be concerned about the manner in which flame is transmitted over the surface.

The "Fire Hazard Classification" test method of Underwriters' Laboratories, Inc. is a proven method of evaluating surface burning characteristics of wallboard, wood, acoustical tile, building insulation, and asphalt-protected metal. Plastic building materials, measured by this yardstick, exhibit a wide range of burning rates. Some luminous ceiling plastics burn at rates several times that of wood, while others show a fraction of the flame-spread hazard of wood.

GAS AND OILS DEPARTMENT:

Prefabricated fireplaces for small dwellings.

System of oil pipeline heating using piping as the electrical conductors.

Apparatus for accelerating the smoking of meat by automatically mixing wood smoke and warm air.

The contributions of the Laboratories toward reduction of the loss of life and property in our country has attracted the attention of foreign engineers. We view these visits as evidence supporting Emerson's thought, "If you build a better mouse trap than your neighbor, the world will make a beaten path to your door."

There are 10 fundamentals upon which the enterprise is operated:

1. The business of Underwriters' Laboratories, Inc. is to publish its own opinion as to the merits of products.

2. It alone is responsible for these opinions.

3. This responsibility cannot be shifted.

4. The various requirements of the several standards are important tools in the conduct of the business of the Laboratories.

5. Others cannot be permitted to select these tools, although those who are concerned are freely and gladly consulted.

6. These standards are not intended for use by others, except as producers find them guides to the design of goods to be subjected to review by the Laboratories.

7. The standards are freely distributed, so that the bases for the published opinions may be known.

8. A standard must justify the opinion which is published.

9. The several provisions of a standard should be so stated that if correctly applied, discrimination between the product of two or more submittors is avoided.

10. Underwriters' Laboratories, Inc. should not be recorded as endorsing products or methods that involve violation of the "National Electrical Code" or the other standards of the National Board of Fire Underwriters.

Much legislation requires (before sale or offer for sale) listing of products by Underwriters' Laboratories, Inc. or other acceptable laboratories with factory follow-up systems. Preparations for enactment of such legislation continue.

The Laboratories can be neith-

er for nor against such action by any echelon of government. We avoid any act that might be interpreted as influencing legislation. When we are called upon to explain our work before public hearings or before committees drafting such laws or ordinances, appearance is on invitation. Our participation is that of explaining the organization, purpose, and methods of the business.

The many exhibitions of faith and confidence in the work by regulatory authorities are inspiring and conducive to greater efforts to serve. However, acquiring talent, developing standards, and the technique for our particular engineering attack, require much time. Safety standards, in general, are empirically developed from repetitive testing, and if expansion is too fast, with respect to added classifications, both industry and we are distressed.

Officials drafting control legislation will help themselves, their enforcing agency, and any laboratories they recognize as an inspection agency if the objects of such legislation are clearly delineated and kept within the ability of the selected laboratory to serve. Study of the facilities (standards and equipment) of a chosen testing laboratory, together with its ability to acquire both, should have a bearing on the preparation of such legislation.

Underwriters' Laboratories, Inc. has never solicited business because solicitation carries an implied delivery. We have not been able to devise means of forecasting results of product performance; consequently, no guarantee of product acceptance can be made. Our view has been and will be to determine by test and state the facts.

We entertain no ambitions to project our safety point of view into assemblies that have been designed for installation and operation under the supervision of competent engineers. It is a reasonably safe assumption that hazards are at a minimum under such circumstances.

What, then, does Underwriters' Laboratories, Inc. do and what are the limits of its work? To answer this, it is best to state that the work falls into two general divisions:

**Electrical.** Products classified in the "Electrical Equipment List" for use without and within hazardous locations.

**Other than Electrical.** Products classified in the "Fire Protection Equipment List;" "Gases and Oil Equipment List;" "Accident, Automotive, and Burglary Protection Equipment List."

There are 142 classifications of electrical products in our opinion card file and 108 classifications of listed products in the "Other than Electrical" phases of the work. This division, a happy circumstance, enhances operating an independent and organization balance. It is also one of several factors diluting some expressed views that bigness of industry assures preferential treatment.

In the electrical field, from which 60 per cent of our dollar volume originates, testing of elec-

**Injured's head can be securely immobilized with new stretcher**

Here's another use for the versatile new Haggard's all-purpose stretcher kit. No matter what type of stretcher you now have, you have need for the new Haggard. It does all the things any stretcher can do, plus many more. It is a complete unit ready for instant use anywhere. It is so compact that it fits into a car trunk. Lightweight, only 28½ pounds complete with case, blanket, first aid supplies, and accessories. It's such a totally new concept in utility, versatility and practicality that you should investigate it at once. See how easy it is to store, transport, and put to use. See all the advanced, needed features that make it a combination litter, fracture board, traction splint, and resuscitator. Compact, convenient, complete. Ask your MSco distributor for a demonstration or write Medical Supply Company, Rockford, Illinois. In Canada, Safety Supply Company, Toronto 2.

**safe all the way around**

**For overhead maintenance — up to 14 feet**

**SAFETY DIRECTORS** like these mobile ladder-trucks because the automatic safety control locks truck—makes it a stable work platform—with 4-way guard rail protection for operator.

**OPERATORS** like Safe-Lad because all tools and equipment are always handy in the base tray—and they always feel secure and comfortable.

**MANAGERS** like Safe-Lad because it reduces overhead maintenance costs—in some cases by as much as 50%.

*For complete specifications, write—*

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*Manufacturing Company*

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## Small plane becomes emergency ambulance with new stretcher

Here's another use for the versatile new Haggard's all-purpose stretcher kit. No matter what type of stretcher you now have, you have need for the new Haggard. It does all the things any stretcher can do, plus many more. It is a complete unit ready for instant use anywhere. It is so compact that it fits into a car trunk. Lightweight, only 28½ pounds complete with case, blanket, first aid supplies, and accessories. It's such a totally new concept in utility, versatility and practicality that you should investigate it at once. See how easy it is to store, transport, and put to use. See all the advanced, needed features that make it a combination litter, fracture board, traction splint, and resuscitator. Compact, convenient, complete. Ask your MSco distributor for a demonstration or write Medical Supply Company, Rockford, Illinois. In Canada, Safety Supply Company, Toronto 2.

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**Quickly and Easily Installed by Anyone — No Tools Needed!**

- Simply slip GETS-A-LITE GUARD AND GUIDE over the fixture, as illustrated.
- Made of indestructible spring steel wire. Nothing to break, get out of order or replace. Will last indefinitely.
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- GETS-A-LITE GUARD AND GUIDE actually steers lamp into socket, enabling maintenance man to change lamp in 10 seconds!
- Available for 40 watt and 100 watt fluorescent lamps.

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trical products stops at a primary voltage of 600 maximum. This is a practical bench mark. Most of the equipment and circuits used by the general public is below 600 volts.

Some years ago regulatory authorities desired the investigation of high-voltage (2,300) fire pump controllers because of the bearing their reliability had on fire control. The Laboratories obtained the necessary test equipment and subsequently listed such assemblies. It is not difficult to visualize some segment of manufacturing making a similar request for Underwriters Laboratories, Inc. to depart from this nominal 600-v operating orbit. Should future developments warrant it, we would attempt to be helpful.

Financial support of the Laboratories' enterprise is largely from industry. Cost to industry for work done ultimately appears in the purchase price. The management and staff are constantly on the alert to see that a good job is done in safeguarding equipment that has possibilities of firing premises or injuring persons and to see that assemblies or products are not investigated where such service to the public is not rendered by investigation.

The Laboratories has one objective that is basic: developing and stating the facts. Such an objective must, and probably will, withstand either commercial or political dilution. The engineers of Underwriters' Laboratories, Inc., sometimes called "Apostles of Constructive Discontent," will continue to uncover factual grist and nuggets, disseminating results of a contribution toward a safer United States.

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### Japan Industrialists See U. S. Ordnance Depot

A tour of inspection of the Tokyo Ordnance Depot was made during October by more than 100 members of the All Japan National Safety Council. The members of the council represented virtually every major industry in Japan.

They were welcomed by the Depot Commander, Col. Thomas J. Raber. Y. Nakamura, general manager of the Japan Steel Works, gave a brief talk on safety measures.

The purpose of the inspection was to observe the effectiveness of the safety measures and practices utilized by the U. S. Security Forces and Japanese personnel working at the Depot. Tokyo Ordnance Depot is known for having one of the best operational safety records in the Far East.

The group was escorted through the Depot activities by F. R. Maurer, Department of Army civilian, safety director at TOD. At the conclusion of the tour, refreshments were served by the Depot Safety Staff and Mr. Maurer answered questions asked by members of the Japan Safety Council.

Safety Council members on the tour were from wire manufacturing, electric power, diesel, machine, chemical, automobile, express, cement, electronic, paper, soda, petroleum, iron, steel, aluminum, rayon, construction, and candy manufacturing companies in Japan.


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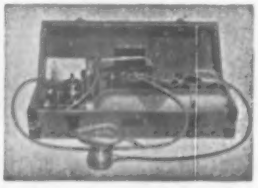
**Nothing**
is more effective in respiratory emergencies than the



## STEPHENSON "MINUTEMAN" RESUSCITATOR

*Three machines in one*

**RESUSCITATOR • INHALATOR ASPIRATOR**

Weighs only 30 pounds. Easy to operate, does more for the patient.

Write today for demonstration without obligation or write for pamphlet N-112.

STEPHENSON CORPORATION
RED BANK NEW JERSEY

Makers of the Harger Drunkometer used all over in the industry and police departments, including New York.

## Calendar Contest Winners For October

"I'm late!" yelped young Billy McGee.
"Just gotta be there before two!"
But his car took a swerve
As he whizzed 'round a curve

First prize of $100 in the National Safety Council's Safety Calendar Contest goes this month to Mrs. Roy E. Goodnight of Morenci, Ariz. The theme in this contest was *Start in time—Avoid accidents.* Mrs. Goodnight's line was adjudged the best of all those submitted. It was:

*Don't let DEADlines cut LIFElines for YOU.*

Second prize of $50 went to Floyd Snyder of Bethlehem, Pa., for this line:

*A prompt starter is smarter—are YOU?*

Third prize of $25 was awarded to Tod H. Keast of Youngtown, Ohio, for the following line:

*Let's arrive, still alive, overdue!*

Thirty $5 awards were issued to:

Hannah L. Miller, Saratosa, Fla.

M. H. Bender, Thiokol Chemical Corp., Marshall, Texas.

Mrs. Everett White, Farnsworth Electronics Co., Fort Wayne, Ind.

J. E. Brown, Spartanburg, S. C.

Mrs. William B. Rehse, Armco Steel Corp., Middletown, Ohio.

Jo Ruth Campbell, E. I. du Pont de Nemours & Co., Inc., Victoria, Texas.

Mrs. George A. Gannon, Rock Island-Frisco Term. Ry., St. Louis, Mo.

Agnes C. Lomax, Fall River, Mass.

Charles R. Bahde, Soennichsen's, Plattsmouth, Neb.

Mrs. Lester A. Beard, Birmingham Southern (subsid. U. S. Steel), Fairfield, Ala.

F. G. Edwards, Martins Creek Plant, Bangor, Pa.

Mrs. Ferol Woodson, Kennecott Copper Corp., McGill, Nev.

Mrs. Rosella Atkinson, Mead, Wash.

H. R. Fridley, Head Welder, Alpha Portland Cement Co., Birmingham 3, Ala.

Les D. Raymond, Set-Up Man, A. O. Smith Corp., Milwaukee, Wis.

Lenore Pyle, Colorado Springs, Colo.

Hurley A. Low, Sedan, Kan.

Mrs. Ernest M. Grider, Allison Div., General Motors Corp., Indianapolis, Ind.

Henry B. Reilly, Office Manager, The Montana Power Co., Livingston, Mont.

E. Frimmer, Group Supervisor, E. I. DuPont de Nemours & Co., Newark, N. J.

Mrs. Ann Lacy, Division Secretary, Mississippi Chemical Corp., Yazoo City, Miss.

Miss June E. Marchand, U. S. Rubber Co., Bristol, R. I.

George E. Dimmick, Metal Tester, Revere Copper-Brass, Inc., Rome, N. Y.

Mrs. Lela H. Henry, Lexington, Ky.

Mrs. H. W. Guenther, Tahlequah, Okla.

Mrs. James Johnston, Kissimmee, Fla.

Mrs. Earl Boyle, Millwright, Buckeye Steel Casting Co., Columbus, Ohio.

George L. Pugh, Chief Clerk, Southern Railway Co., Asheville, N. C.

Mrs. Nellie M. Gruelle, Rossford Ordnance Depot, Toledo, Ohio.

Marvin C. Neel, Spokane 13, Wash.


"VEKI" SAFETY CAP

DESIGNED FOR GREATEST INDUSTRIAL SAFETY

VEKI's larger, roomier elastic-type snood is designed specifically for enclosing more hair than any conventional type cap . . . full protection for all hair all the time! Front of twill. Back is made of mesh—can also be had in solid or flame-proof materials. Navy blue, and brown. Adjusts to all head sizes. Descriptive literature on request.

Manufacturers and distributors of a complete line of safety clothing and equipment.

Write Dept. NS-12 for information regarding your needs.

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MILWAUKEE 16, WISCONSIN

Traffic SAFETY MIRROR

• Eliminate traffic accidents at blind corners inside and outside your plant—also at loading platforms.

• Traffic Safety Mirrors are available in convex or flat glass.

• Mirrors are easily installed and adjustable

WRITE FOR FOLDER and PRICES

| ROUND CONVEX MIRROR SIZES | FLAT RECTANGLE MIRROR SIZES |
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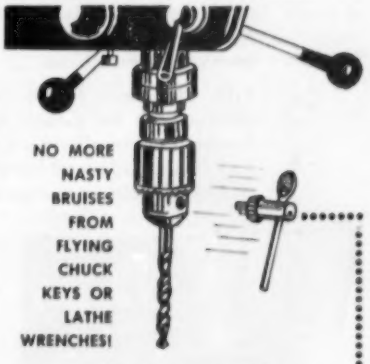
| 13" • 18" | 6" x 14" |
| 26" • 36" | 14" x 18" |

SILVER TROY Company
Mfgrs. of Specialty Mirrors for Industrial Use
92 Lock Street Newark 4, N. J.



NO MORE NASTY BRUISES FROM FLYING CHUCK KEYS OR LATHE WRENCHES!

It's *Impossible*

to leave the *Lindstrom* SAFETY KEY or SAFETY WRENCH in a drill press or lathe when the machine starts!

- Patented Safety Key or Safety Wrench automatically ejects itself as soon as worker's hand pressure is released. You *can't* forget and leave it in the machine.
- Available in sizes to fit all standard chucks.
- Positively eliminates accidents.

*Write for descriptive literature today*

LINDSTROM MANUFACTURING CO., INC.
173 Water Street, New York City

CARING FOR WAXED FLOORS IS . . .

# A cinch with Sanax

## It waxes as it cleans!

**REDUCES THE FREQUENCY OF REFINISHING**

*Sanax* was developed to permit frequent cleaning of waxed floors *without washing away the finish* . . . and to eliminate waste in wax and labor. A neutral liquid soap with a wax base, *Sanax* not only quickly removes dirt, oil, and grease, but *leaves a thin film of wax.* In fact, regular use of *Sanax* to machine-scrub or damp-mop waxed floors *actually prolongs the life of the finish,* and thereby reduces refinishing costs on a year-to-year basis.

Like all *Finnell Fast-Acting Cleansers, Sanax* is specially designed for the greater speed of machine-scrubbing, and works as effectually in a *Combination Scrubber-Vac* as in a *Conventional Scrubber-Polisher.* And because *Sanax* is processed from pure vegetable oils, it's *safe for all floors.*

Find out how you can simplify and reduce the cost of caring for waxed floors. *There's a Finnell Floor Specialist nearby* to help you choose the waxes and cleansers that are *exactly right for your needs. Finnell* makes a complete line, so you can depend on unbiased advice. In fact, *Finnell makes everything for floor care!* For consultation, demonstration, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 2212 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.

- **A mild liquid wax-soap for machine-scrubbing or damp-mopping waxed floors**
- **Leaves a lustrous anti-skid protective finish**
- **Highly concentrated . . . economical to use**

**FINNELL SYSTEM, INC.**

*Originators of Power Scrubbing and Polishing Machines*

Everything FINNELL for Floor Care

**BRANCHES IN ALL PRINCIPAL CITIES**

# NEW SAFETY EQUIPMENT

**Further information on these new products may be obtained by writing direct to the manufacturer or by circling the corresponding item number on the Reader Service Postcard.**

### In-Plant Fire Truck

This new line of in-plant fire trucks is designed to carry a wide assortment of fire fighting equipment. The trucks are available in six basic models. Model KB-8 features a 300 lb. dry chemical unit, backed up by a 150 gallon water fog system. Other units utilizing dry chemical-carbon dioxide combinations, water fog-carbon dioxide combinations, or water only are available. The units are offered on either a three-wheeled 42" wide chassis, or a four-wheeled 48" wide chassis.

Accessories include ladders, utility bar, light, hose, portable fire extinguishers, and extra nozzles, all mounted with panic-proof, quick release brackets to make their removal

by one man simple and fast. An accessory cabinet on the truck provides adequate storage room for fire blankets, boots, air masks, coats, first aid kits, etc. The 300 lb. dry chemical unit comes equipped with 100 ft. of hose and a dualstream nozzle. The pump of the 150 gallon water fog system is driven by a power take-off from the engine.

The trucks are designed for fire-killing power, safety, maneuverability, and simplicity of operation under emergency conditions.

**Ansul Chemical Co., Marinette, Wis. (Item 1)**

### Acetate Visor

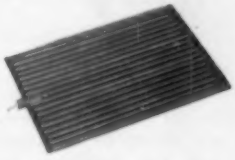
A clear acetate visor gives frontal and side face protection against abrasive particles, flying objects, and chemical splashes. Called the MSA

Skullgard-Faceshield, it can be attached to any MSA protective hat without marring the hat and can be installed or removed in seconds. An aluminum pivot arm permits the shield to be swiveled up or down in any desired position. The visors are easily detached from the pivot arm for replacement.

**Mine Safety Appliances Co., 201 N. Braddock Ave., Pittsburgh 8, Pa. (Item 2)**

### Portable Foot Warmer

A portable foot warmer, the "Electro-Mat," has been introduced to add to employee comfort and as



an aid in cutting absenteeism. The foot warmer is an electrically-heated neoprene rubber mat 14" by 21". It is designed to help increase efficiency and lower frequency of colds of office personnel and production line workers. The mats are useful for assembly line workers, warehouse workers, office personnel, machine operators, etc.

**Interstate Rubber Products Corp., 908 Avila St., Los Angeles 12. (Item 3)**

### Crane Overload Guard

A dynamometer, positioned directly in series with the load and between the lift hooks, instantly indicates to the operator if a crane load is beyond the weight-radius capacity of the crane. The instruments are available in ranges from 0-500 up to 0-100,000 lbs. Each is individually calibrated for accuracy. All models will withstand accidental overloads of up to 25 per cent without injury to calibration. The actual

safety factor is several times the rated capacity. The instruments come equipped with clevises and pins, maximum pointers and shatter-proof plastic crystals.

**W. C. Dillon & Co., Inc., P. O. Box 3008, Van Nuys, Calif. (Item 4)**

### Residual Oil Cleaner

An effective and economical clean-up method for residual oil spills involves the use of two products—Magnus stripit and Magnus

Steam Gun Cleaner No. 94-R. The stripit is applied to residual oil spills with a wide brush wherever they occur. The solution is allowed to soak in for 30 minutes to an hour, during which time it penetrates the oil deposit and loosens its bond to the metal or tile of the tank. A solution is made of the 94-R and water, and this solution is sucked up into a steam gun and used to knock off the loosened oil and stripit. The first application usually removes old and fresh spill residues.

**Magnus Chemical Co., South Ave., Garwood, N. J. (Item 5)**

### Permanent Floor Patch

A floor patching material that has resistance to oil, grease, acids, and alkalis, is designed for creameries, dairies, meat packing and cold storage plants, oil and gasoline plants, machine shops, and canneries. The product comes in powder form and

is mixed with water at the time of application. Special quick-setting powders have been added to the mixture which assures maximum setting-up time of four hours.

The patch material forms a permanent bond with the existing floor area and, according to the manufacturer, will last as long as the floor itself, and can be painted over, and used inside or out. It will not chip or crack after it has set.

**Colonial Refining & Chemical Co., 817 NBC Bldg., Cleveland 14, Ohio. (Item 6)**

### Combination Padlock

A small, personal padlock, that offers a choice of 1,000 opening combinations, is now available. The owner can change from one combination to another if desired. The

lock is designed specifically for use on cabinets, tool chests, telephone dials, etc. It is made of forged brass with a steel shackle heavily plated to resist corrosion.

**Corbin Cabinet Lock Division, The American Hardware Corp., New Britain, Conn. (Item 7)**

### Rubber Drum Tilter

This tilter, especially designed for pouring from the rubber drums used for chemicals and solvents is easy to load, saves time and effort and helps eliminate spillage and waste. It is lightweight, portable and requires little floor space. An anti-

slip clamp securely holds the drum. The tilter is electrically welded and is available for various size drums.

**Nutting Truck & Caster Co., 1201 W. Division St., Faribault, Minn. (Item 8)**

### Positioning Stand

Safety doors and a removable shelf safety plate are features of the new all-steel welded positioning stand for drop bottom boxes. After boxes are automatically unloaded when placed in position on the stand by fork truck, safety doors on the sides of the stand prevent parts fallout. A removable safety plate on the stand shelf permits it to be used as a tray or for discharge onto a table.

Stand legs may be adjusted by bolts to place the shelf at a height

most convenient for standing or sitting workmen to handle parts, or for slide-out onto a table. The stands are designed to handle two boxes, one for dumping and the other for storage. They are built to customer specifications, according to the size and load capacity required.

**Palmer-Shile Co., 12643 Mansfield, Detroit 27, Mich. (Item 9)**

### Safety Power Panel

A portable safety "Power Panel" for excessive loads on a power line without blowing fuses, has been designed. The purpose of the panel is to facilitate the use of appliances,

motors, drills, and auxiliary lighting through a multiple outlet circuit breaker. It is particularly useful for workshops, electrical appliance shops, stores and factories.

There are three models, with two or three circuit outlets, together with safety control toggle switches for operating high amperage motors with maximum safety. Circuits are protected by a 6-ampere fuse for small power tools and a 10-ampere time delay fuse for maximum ¾ hp. a-c motor operation. All component parts are "UL" approved.

**Goodwill Manufacturing Co., Dept. 16, 1219 S. Laramie Ave., Chicago 50. (Item 10)**

### Concrete Finish

A multi-purpose concrete sealer-finish, called "Dust-Down," is for use on cured or uncured concrete and other masonry-type floors. According to the manufacturer, "Dust-Down" eliminates dusting on concrete floors and makes sweeping and other care easier. Because of its special formulation, no floor neutralizing is necessary when the product is used on uncured concrete, and it dries in 20 to 30 minutes. It can be maintained by mopping with a weak cleaning solution.

No preparation or mixing is required, and it is water-resistant and provides a good gloss to improve the appearance. It is slip-retardant, has practically no odor and is nearly colorless. It is applied on new concrete after the floor has been swept or vacuumed.

**S. C. Johnson & Son, Inc., Racine, Wis. (Item 11)**



it of wire. The system is designed

weight, rigid reinforced resinoid

### Safety Spectacle Clip

### Truck Leveling Device

An adjustable truck leveling device has been designed to save dock space and is useful where conventional dock leveling devices cannot be used. Known as the Adjust-A-Truck, the unit is built into the pavement in front of a loading dock, and by means of a heavy-duty hydraulic system, raises or lowers an

over-the-road truck or trailer until the bed of the vehicle is even with the dock.

The model has a capacity of 40,000 lbs. with standard units measuring 12 ft. in length, with a choice of either 9 or 10-ft. widths. The dock is constructed of ½-in. non-skid steel floor-plates, and the framework is rigidly welded and reinforced with an extra heavy "X" frame on the underside for torsional stability. The ramp can be raised or lowered with the vehicle on the platform, where trucks can be driven onto it without prior adjustment.

**Rowe Methods, Inc., 2534 Detroit Ave., Cleveland 13, Ohio. (Item 12)**

### Safety Eyewear Frame

Safety, durability, and modern styling are claimed for the "Titan," a new safety eyewear frame.

It is said to be the first combination metal-and-plastic industrial safety frame. Safety features include: a frame of non-inflammable acetate butyrate, extra tough to withstand breakage, and fully cured to hold its

shape; a metal bridge, plated to resist corrosion and held to the frame with four rivets for maximum strength; adjustable nose pads which are an integral part of the bridge. Rigid pads are also available.

The new frame features safety-cross plaques on the front temple corners which identifies them instantly as safety glasses with safety lenses. The "Titan" has a large, modern lens shape which is attractive and functional. It provides a broader horizontal field of vision and offers a better location for bifocal segments.

**Bausch & Lomb Optical Co., 635 St. Paul St., Rochester, N. Y. (Item 13)**

### Acid Bottle Drip Sleeves

Sleeves of "Alathon" polyethylene resin which eliminate drip during pouring are now available for the manufacturer's five-pint acid bottles. Polyethylene's resistance to wetting

prevents acid from dripping down the outside of the bottle and reduces acid burns to the laboratory chemist and worker.

**E. I. du Pont de Nemours & Co., Wilmington, Del. (Item 14)**

### First Aid Kit

A compact and inexpensive first aid kit was recently introduced. Instead of the customary vial of antiseptic liquid, the kit contains a small fold-up metal tube of combination antiseptic and burn ointment. The tube cannot break and ruin other items in the kit. The kit contains absorbent cotton, 12 waterproof adhesive bandages, 2 sterilized gauze pads, a 5-yard roll of ½-in. adhesive tape and a 6-yard roll of 2-in. gauze bandage.

**Acme Cotton Products Co., Inc., New York. (Item 15)**

### Warning Device

A safety warning device for the oil refining and chemical processing industries gives a warning indication on a pressure gauge when dangerous hydrogen blisters are corroding the walls of metal tanks in which chemical reaction (under pressure) is in process. The hydrogen probe is made of seamless carbon steel tubing. One end is closed and machined to make a thinner walled section called the corrosive-sensing-area. This end is inserted into the chemical processing tank. The other end, extending outside the tank, is held into position with fittings and pressure type packing.

If, inside the tank there is the right combination of hydrogen-ions, sulfides, temperature and flash or acidic compounds that can penetrate steel and form hydrogen blisters, these blisters will be formed

inside the thinner walled section of the probe before excessive damage is done to the tank. The hydrogen from the blister will show its presence on the pressure gauge on the probe outside the tank.

The probes may be removed and inspected or replaced without taking the tanks out of production or off the stream. The probes are made in 18-, 24-, and 36-in. lengths. They are available in three different types of mountings—flanged, threaded, or pressure lubricated.

**Texsteam Corp., Dept. PR-28, 320 Hughes St., Houston, Texas. (Item 16)**

### Fire Detection System

This "UL" and Factory Mutual approved fire detection system is for automatic fire detection or sprinkler supervision. Called PN-02-AD, it provides automatic Class A emergency signaling operation for proprietary, auxiliary, or local use. According to the manufacturer, reliable

automatic protection is assured in spite of completely broken wires in thermostat or alarm circuits.

This is accomplished with a normal two-wire installation, because the PN is actually two systems in one. The panels have a safety factor of 8-1, assuring long life. Production models are available in from one to 80 circuits, and each circuit can handle up to 10,000

ft. of wire. The system is designed for protection of large properties, such as mills, factories, warehouses, etc.

**Notifier Manufacturing Co., 239 S. 11th St., Lincoln 8, Neb. (Item 17)**

### Fire Snuff Panels

Fiberglass reinforced daylighting panels that are UL approved are now being manufactured under the trade name of "Fire-Snuf." The panels have a flame spread rating of below 75. This is equivalent to

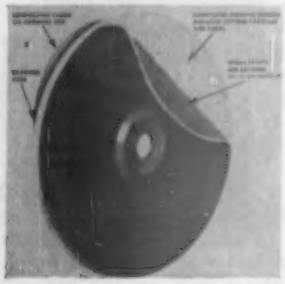
the Building Officials Conference of America classification of "slow burning" and will meet the safety requirements for most factories, schools, and other coded areas. The panels are self-extinguishing and will not support combustion. They are molded of fiberglass and Hetron, a permanently self-extinguishing polyester resin.

Under blow-torch heat, panels will ignite, but they extinguish themselves almost immediately upon removal of the source of heat and flame. The panels are made available for use as skylights, sidewalls, and partitions in industrial, commercial, and institutional buildings where codes call for a flame spread rating of below 75, or where fire hazards are unusual and where fire safety is an all-important factor. They are shatterproof and are molded in flat sheets.

**Resolite Corp., Zelienople, Pa. (Item 18)**

### Abrasive Wheels

These high-speed abrasive wheels, incorporating extra strength and safety, have a special safety web



backing of spiral wound rayon auto tire cord. The wheels are light weight, rigid reinforced resinoid bonded abrasive for use on portable disc type and right angle grinders. They are made from a mix consisting of abrasive cutting particles and synthetic resin bonding agents, reinforced with alpha cellulose fibers criss-crossed and knitted together throughout the wheel mass.

In addition to the extra safety web backing on the top side, the under, or grinding, side is further strengthened with a layer of reinforcing fabric. This combination provides equal and added strength in all directions of force applied on the wheel. The wheels are designed to provide maximum safety, fast cutting action, and long life.

**Simonds Abrasives Co., Tacony & Fraley Sts., Philadelphia 37. (Item 19)**

### Safety Floor Topping

A safety floor topping that is slip and skid retardant features a new type of abrasive filler and aggregate, combined with X-L's synthetic, heavy-bodied plastic base material and special solvents to make up the product. When applied on steps, inclines and floors, the product is said to form a thin, tightly - bonded resilient coating that is slip resistant, whether wet or dry.

It can be used over concrete, wood, steel, tile, etc. Its resistance to oil and grease allows its use around machinery. It is resistant to gasoline, alcohol, fats, and chemicals, etc., and is useful on stairways, ramps, cat-walks, aisles, etc. It is available in tile red, green, light gray and dark gray and is said to stand up under heavy steel wheel trucking.

**The Monroe Co., Inc., 10703 Quebec Ave., Cleveland 6, Ohio. (Item 20)**

### Lock-out

This vinyl plastic coated "Lock-Out" is for use on electric switch and fuse boxes, gas valves, acid valves, steam valves, etc. This safety device, insulated by its plastic coating, protects against injuries, equipment damage, and work spoilage as the switch or valve cannot be activated until the last man has personally removed his lock. The six holes allow the use of multiple locks on a unit after a switch or valve is closed.

**Osborn Mfg. Co., Warsaw, Ind. (Item 21)**

### Safety Spectacle Clip

A simply designed spring clip holds welder's safety spectacles or protective shields of clear or tinted plastic. Called the "Kim-Clip," it snaps in place on all types and makes of prescription lenses. It is

adjustable to three positions — up, out, or down—and is light weight, convenient, practical, and inexpensive. The clip affords protection for those who wear prescription lenses in welding and grinding operations.

**Kimball Safety Products Co., 9310 Wade Park Ave., Cleveland 6, Ohio. (Item 22)**

### Aluminum Sliding Grille

A new, highly finished sliding grille is designed for use in a closure in preferred locations where the standard galvanized, or dull aluminum models do not meet the decorative specifications. The grille is constructed of No. 6 heavy gauge bright aluminum wire, creating a curtain of chain links, extended to any height of opening by means of bright aluminum rods running to an overhead track.

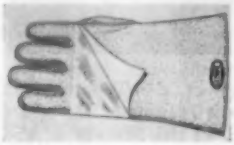
Designed as a means of keeping out casual intruders while still allowing free circulation of air and permitting clear view of interiors by safety officers, the grille can be

used in aisles, corridors, parking lots, storage space, entrance and exit gates, etc. The grille folds into a space one-fifth of its width and can travel around corners.

**Cornell Iron Works, Inc., Long Island City, N. Y. (Item 23)**

### Aluminum Welding Glove

A welding glove with an aluminum foil interlining to shield the hands reflects as much as 95 per cent of the radiant heat back towards the source, preventing it from reaching the hands. The foil covers



the entire back of the hands from wrist to knuckles, since it is principally this area that requires the extra protection. The glove, called the "Al-Cool," increases safety and worker comfort.

**The Olympic Glove Co., Inc., 95 Madison Ave., New York 16. (Item 24)**

### Conduit and Voltage Markers

Self-sticking conduit and voltage markers for identifying conduit, busways, circuit breakers, control centers, power switches, power lines, switchboards, transformers,

utility switches and all types of electrical equipment, are now available. They are of non-conductive cotton cloth, with bold, black lettering on an orange background and come mounted on handy dispenser cards which protect the heavy industrial grade adhesive. The markers are available in three sizes, and with the names of most common circuits, such as "Emergency Service," "Power," "Lights," "Fire Alarm," "A-C," "D-C."

**W. H. Brady Co., 727 W. Glendale Ave., Milwaukee 12. (Item 25)**

### Bottle Safety Bag

A new safety bag for enclosing laboratory pressure bottles in boiling water baths is made of 100 per cent Dynel. The bags are used to reduce the hazard of flying glass if bottles shatter under rapid heating and cooling conditions. No attempt is made to dry such bags after use,

and one of the major problems in laboratories has been the prevention of rot and mildew. According to the manufacturer, the Dynel bags are rot-resistant and mildew-proof. The bags are useful for research and chemical laboratories.

**Carbide & Carbon Chemicals Co., Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17. (Item 26)**

### Inside Lock Release

This device prevents the danger of an employee being locked inside a plant. The release is attached inside the door, gate, or window and a prominent red label bears the inscription, "In an emergency, to open door, strike this button." When the button is hit, it breaks a control glass on the outside of the door, and automatically releases the pin which holds the hasp padlock in place. The door can then be pushed open. The device may be quickly and inexpensively reset by inserting another special glass panel in the lock release.

The release may be attached to an alarm system and activate a siren, bell, or warning light, either at the same location or a distant location, such as the desk of the plant guard or watchman.

The release is quickly and easily installed, and when attached to windows, the window may be padlocked on the outside, but may be opened from the inside in case of fire or other emergency.

**American Allsafe Co., Inc., 1245 Niagara St., Buffalo 13, N. Y. (Item 27)**

### Scale and Deposit Remover

Called "Dynasol 55" this product is designed for safe removal of water scale deposits from heat exchange equipment and water lines. It is a non-volatile, non-hygroscopic, white crystalline solid inhibited acid which forms extremely soluble salts with calcium, magnesium, sodium, phosphate, and non-metallic iron.

It is said to eliminate the hazards of handling and storage of liquid acids. It is dissolved in water to make a solution of the required strength. The product is shipped in polyethylene lined steel containers. Dynasol has an acid strength nearly equal to that of sulphuric acid.

**Chemical Cleaning Service, Inc., P. O. Box 388, Jackson Heights 72, N. Y. (Item 28)**

### Floor Repair Material

This floor material is said to be capable of withstanding heavy factory traffic immediately after application. The material is a ready-mixed granulated compound of hard, accurately-sized aggregates and processed asphalt. The Carbo-Tread J-176-C "Regular" forms a tough resilient surface well suited for foundries, steel mills etc. The product is applied in a three step application of priming, filling, and tamping or rolling. It can also be used for patching. "Regular" is available in various size containers.

**Maintenance, Inc., Wooster, Ohio. (Item 29)**

### All Purpose Timer

This all-purpose automatic reset timer is for use with traffic signals, fire pump circuits, sewage plants, motor and valve controls, etc. The timer is designed so that quick external inspection of timer motor operation, clutch engagement, elapsed time point of operation, point of reset and load switch actuation is possible without interrupt-

ing operation of a process. Internal inspection is possible while operating by means of a pull tab at the back of the cylindrical cover of laminated plastic.

It can be installed into panels up to ½ in. thickness, and mounts into a single round cut-out 3-3/16 in. in

diameter. The one-piece injection-molded acrylic front piece has vacuum metalized decorations and hot stamp graduations on the inner surface. An expansion nut assembly fastens the cover securely from the rear surface and simplifies removal of the dial.

The timer has self-cleaning contacts that are easily interchangeable in the field and are rated at 10 amperes at 115 volts, a-c, non-inductive.

Ten timing ranges from 0 to 15 seconds, with a minimum setting of ¼ second, to 0 to 240 minutes with a minimum setting of 240 seconds, are possible.

**Automatic Temperature Control Co., Inc., 5200 Pulaski Ave., Philadelphia 44. (Item 30)**

### News Items

The Wyandotte Chemicals Corp. has announced the promotion of Stanley Johns to district sales manager of the J. B. Ford Division. Mr.

Johns has had considerable experience in the chemical and production field, and joined Wyandotte in 1945.

* * *

W. G. Wiley, vice president in charge of sales of the Wayne Manufacturing Co., has announced the transfer of William W. Kingman to the company headquarters. Mr. Kingman will assist in the administration of the company's new industrial power sweeper sales program. Recently, Mr. Kingman has been district sales representative for Wayne in the midwestern states. Previously he was general sales manager for the Highway Equipment Co. and Chicago branch manager for Illinois Contractors' Machinery, Inc.

* * *

Stop-Fire, Inc., has announced the details of a new plant and home office, now under construction in South Brunswick, N. J. The quarters are expected to be ready for occupancy in early 1956. The plant will provide expanded facilities for production and warehousing, and is the first unit of a proposed "Fire

Fighting Center" that will cover 100 acres. Future plans call for a research laboratory, testing grounds, and a training school to be built at the "Fire Fighting Center."

* * *

In an announcement by Lawrence F. Boland, vice president in charge of sales of the Beryllium Corp., Robert D. Fleischer was named sales manager of the company's safety tool division and Walter S. Pollard was named advertising and sales promotion manager. Mr. Fleischer, before joining Beryllium, was a zone manager for the Plomb Tool Co. and district manager for the Mall Tool Co. Mr. Pollard, a member of the Eastern Industrial Advertisers, the Philadelphia Guild of Advertising Men, and National Association of Industrial Editors, was supervisor of industrial advertising at the R. M. Hollingshead Corp., assistant advertising manager at the Baldwin-Lima-Hamilton Corp., and assistant advertising manager of the Quaker Rubber Corp.

* * *

"Automatic" Sprinkler Corp. of America has announced the election of Henry N. Rider as vice president. Mr. Rider will continue to function as manager of the fire protection company's technical and production department. He has been with the company for 36 years, and has been

manager of the Technical Division and plant manager. He is a charter member of the Society of Fire Protection Engineers and belongs to the American Society of Mechanical Engineers.

* * *

The Alan Wood Steel Co. has announced the appointment of C. Irwin Hochhaus as plant manager of the company's new Penco Metal Products Division. Before coming to the Alan Wood Steel Co., Mr. Hochhaus was a plant manager for the Royal Metal Manufacturing Co. In his new post he will coordinate production and shipments of the company's steel lockers, cabinets and shelving.

* * *

Robert M. Elrick has been appointed New England district manager for Tect, Inc., of Dumont, N. J. Mr. Elrick has been senior chemist of the Connecticut State Department of Health, Bureau of Industrial Hygiene, for the past 10

years. He will represent Tect, Inc. in offering its line of safety solvents to industrial plants and will assist manufacturers in their toxicity problems.

ATHLETE'S FOOT?

Don't Take Chances!

ALTA-CO

KILLS FUNGI IN LESS THAN A MINUTE!

Low-Cost ALTA-CO POWDER *stops* Athlete's Foot *before it starts.* Independent laboratory tests prove ALTA-CO kills *all* forms of fungi commonly found in Athlete's Foot *in less than 60 seconds!* Harmless to skin, towels, clothing.

Foot baths in which ALTA-CO is dissolved can quickly, easily be tested for strength.* DOLGE rubber foot tubs available on special service offer with 5-year guarantee.

ALTA-CO FOOT POWDER in handy, sprinkler-top cans gives soothing, quick relief; guards against reinfection.

H.D. FUNGICIDE—Economical floor wash dilutes 1-300 parts of water to kill fungi on shower and locker room floors. Effective also in foot spray equipment.

*Write for literature . . . See your DOLGE Service Man.*

*EXCLUSIVE ALTA-CO TESTER

Eliminates guesswork — helps keep your foot tubs at full strength always.

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WESTPORT, CONNECTICUT



You Can't Fall

IT'S A LIFE SAVER

It locks automatically—instantly—holds.

SAFETY DEVICE FOR LADDERS

*Prevents death and injuries from falling.*

Inexpensive. Easy to install. Clamps to any rung ladders, peg ladders, pole or frame. No welding or cutting.

Automatic: Positive. Will catch workman if he starts to fall even if unconscious.

Simple to operate: No upkeep. Requires no attention from climber.

Notched rail hot dipped galvanized. Entire equipment rust and corrosion proof.

In use throughout country and abroad for approx. 6 years.

*Patented. Manufactured only by*

SAFETY TOWER LADDER CO.

1024 Burbank Blvd. P.O. Box 1052

BURBANK, CALIFORNIA


## High Stacks Increase Safety Problems

REDUCTION OF AIR POLLUTION by increasing the height of industrial stacks has intensified safety problems in connection with the stability of high stacks, it was revealed last month at the Diamond Jubilee Annual Meeting of The American Society of Mechanical Engineers meeting in Chicago.

A new and radically different concept of wind-excited vibration of tall power plant stacks, described by M. S. Ozker and J. O. Smith, The Detroit Edison Company, is expected to be of value in the design and construction of steel stacks by providing for greater stability and in preventing future recurrence of serious difficulties that have occurred in certain recent instances.

The new concept proves that wind-induced vibrations of a stack are "self-excited," rather than "forced." These vibrations, which are perpendicular to the direction of the wind, have their own natural frequency, the same at all wind velocities, their amplitudes continuing to increase with wind velocities, it was pointed out. No "critical wind velocity" was detected during extensive experimental observations, contrary to previous concepts of stack vibration.

Two types of steel stacks were studied: self-supporting, welded steel, gunite-lined stacks, and building-supported, riveted steel, brick-lined stacks. The latter were found to have more structural damping than the former, all other structural features being the same. All of the stacks conformed to local building codes and accepted engineering practices. Large deflection of the top of one of the stacks was found to be caused by vibratory build-up rather than by the steady drag of the wind.

Vibration of the stacks was studied by means of telescopic sights trained on graduated targets on the stack from the base, and by strain measurements 140 feet below the top of the stack. The latter were made by means of bonded resistance wire strain gauges connected into a direct writing oscillograph.

For Safety

Guardi-Ann Hat

Combines utmost protection and style. Exclusive patented features found in no other hat.

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Zip professional charts!

*You* can be a *professional* "draftsman" in minutes (so can anyone in your office.)

Everything you need to make an accurate, professionally drawn graph is pre-printed on self-sticking acetate tape! Lines, dotted lines, bars, people, coins, autos, — *everything!* Merely plot your dots—roll on whatever you want. Presto! A professional graph, without professional help, time or costs.

Write today for all the details on this revolutionary graph-making method! Chart-Pak materials also available for organization and flow charts, and office layout.

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# TRADE PUBLICATIONS

**These trade publications will keep you up-to-the-minute on new developments in safety equipment and health products. All catalogs are free, and will be sent without obligation. Just circle publication number on the Reader Service Postcard.**

**1. Tuffy Sling Handbook:** Catalog No. 2 contains 60 pages of illustrations, charts and diagrams describing 16 different factory-fitted slings and nearly two dozen standard fittings available for slings. Several of these slings are new types recently added to the Tuffy lines. It contains a complete rigger's manual, shop chart of proof test ratings for all Tuffy slings, a new engineer's notebook and standard signals for directing operations of overhead traveling cranes, cranes and derricks and locomotives. Union Wire Rope Corp.

**2. Portable Emergency Lighting:** Bulletin describes a portable emergency lighting unit, Model DS that provides automatic and instant emergency illumination in hospitals, factories, public buildings, office buildings, large garages, etc., where sudden power failure could have serious results. UL approved. Dual-Lite Co.

**3. Hot Foot and Liquid Carriers:** Application of "Aervoid" stainless steel vacuum-insulated food containers to speed mass feeding is described and illustrated in this brochure. How these portable hot food and liquid carriers can solve in-plant feeding problems is shown. Vacuum Can Co.

**4. Magnetic Drums:** Permanent magnetic drum applications and features are described in this 6-page bulletin MD-200. In the processing of foods, feeds, seeds, grains, chemicals, minerals, sand, coal, cement, slag, ore, etc., magnetic drums automatically and economically remove tramp iron or ferrous material from gravity or conveyor transported products. Bulletin also states that they protect process equipment from tramp iron damage, concentrated magnetic from non-magnetic materials, remove tramp iron to assure product purity and prevent fires and explosions caused by accidental sparking of tramp iron. Diagrams, performance data, application guides and pictures included. The Homer Manufacturing Co.

**5. "The Nature of Wood Floors":** Highlighting the causes and methods of treatment of some of the common wood floor problems, this large (17" x 22") bulletin board poster shows the natural "thirsty" state of wood floors; accounting for the need to protect the flooring from staining by spillage and normal traffic usage. An excellent visual training aid for maintenance personnel. National Sanitary Supply Assoc.

**6. Vision Screening:** What vision screening of your employees can accomplish for your plant is presented in this booklet. Details are included on how these tests produce 20 per cent reduction in spoilage, 45 per cent cut in training costs, and 14 per cent higher production for those plants who use them. Keystone View Co.

**7. Anti-Fogging Liquid:** Humidity fog-out of goggles, masks and other glass or plastic surfaces can be eliminated with application of "Klear-Glass" liquid as described in this bulletin. Also presented are factual figures illustrating how much money fog-out can cost a plant. Buckley Corp.

**8. Face Shields:** Face shields that provide full eye, face and forehead protection plus full working freedom for your workers are described and illustrated in this bulletin. The three different available sizes are discussed. B. F. McDonald Co.

**9. Floor Absorbent:** Oil and grease absorbent materials are covered in this bulletin. Featuring "Sol-Speedi-Dri" absorbent, the literature is presented along with a sample for your personal inspection. Speedi-Dri Corp.

**10. Non-Skid Floor Mats:** Non-skid floor mats for preventing slip and slide accidents, worker fatigue, and production losses are covered in factual information presented in this brochure. Complete construction details on these cushioned rubber cord mats is included. Durable Mat Co.

**11. "Stop-Step":** Safety ladders mounted on ball bearing wheels for mobility, and which lock firmly to the floor with only seven pounds pressure to any stair, are described and illustrated in this brochure. Cramer Posture Chair Co., Inc.

**12. In-Plant Fire Trucks:** Well illustrated and described this 10-page booklet shows company line of in-plant fire trucks. Each model is built to accommodate a wide variety of fire fighting supplies and accessories in addition to the carbon dioxide, dry chemical or water fog units. A complete description of each of the models is outlined together with standard accessory groups. Seco Engineering & Manufacturing, Inc.

**13. Safety Goggles:** Eight styles of goggles providing top safety and comfort for all needs are illustrated and described in a 4-page bulletin. The back page of this bulletin contains a goggle lens selection chart to aid you in choosing the right lens. American Industrial Safety Equipment Co.

**14. Porcelain Enamel Signs:** Signs for both inside and outside use are fully presented in catalog P.7. Included is a price schedule to enable

anyone to quickly and accurately price any sign, in any quantity. Porcelain Metal Products Co.

**15. Aluminized Clothing:** Fyre-Armor aluminized industrial and fire fighting clothing catalogs are available showing the many applications of this clothing in industries where workers are subject to high heat radiation. Far-Ex Corp.

**16. Floor Grating:** Safe load tables for all basic types of gratings, panel width constant charts, tables on standard widths and types of steel stair treads, types of grating anchors, use of gratings in several industries, tables on bridge decking and various types of drain gates are all contained in the 16-page Data and Specification Manual. Klemp Metal Grating Corp.

**17. Dispensary Equipment:** Dispensary equipment plus surgical equipment instruments and supplies are featured in the 52-page 2-color catalog No. 188. Of particular interest to industrial users is the all-purpose industrial dressing chair for first aid treatment. A. S. Aloe Co.

**18. Rubber Safety Products:** New catalog tells how to select proper rubber safety products and to cut maintenance costs. Shown are: gloves, aprons, sleeves, clothing, footwear and acid handling equipment. Miller Products Co., Inc.

**19. Grinding Wheel Guards:** A line of wheel guards for flaring cup and straight cup wheels is the subject of this folder. The guard is designed to protect without cutting down visibility. It revolves with the wheel and is said to be lightweight and easy to assemble. Morrison Products, Inc.

**20. Burn Ointment:** Bulletin gives details on an easy spreading, antiseptic burn ointment. Packed in tubes and tins, also available in liquid form. Samples available. Kip, Inc.

**21. Safety Equipment and Products for Construction and Maintenance:** Catalog describes and illustrates complete line of linemen's equipment including belts, "climbers," accessories, clothing and tools. Also featured are safety tools for electricians and tree surgeons. R. H. Buhrke Co.

**22. Fire Extinguisher Chart:** Fingertip, fast description of fire extinguishers in chart form for easy identification of all types of extinguishers, method of operation, sizes, and classes of fires on which they should be used. An exceptionally informative reference chart for desk or wall. American La-France-Foamite Corp.

**23. Safety Marking Tools:** Catalog 100 illustrates and describes company's complete line of safety marking tools, special stamps, machines and fixtures. M. E. Cunningham Co.

**24. "How to Care for Your Floors":** Long-range and day-to-day maintenance programs for all types of floors are described in detail in this 23-page booklet. There also is a section on suggested treatments for some of the most common floor failures such as loose tiles, yellowing, lack of water resistance, blooming and tackiness. S. C. Johnson & Son, Inc.

**25. Automatic Emergency Lights:** A 4-page folder describing and illustrating automatic emergency lights. Suggested uses, and installation recommendations for five Big Beam models included. All are UL approved. U-C Lite Manufacturing Co.

**26. Overhead Handling Equipment:** This 10-page booklet features engineering and application data on Tramrail overhead materials handling equipment. The booklet is replete with photographs and drawings featuring a wide variety of installations and equipment details. A thorough analysis of stresses in a number of types of overhead tracks is provided. The subject of track peening is covered. Track switches, carriers, tractors, cranes, transfer cranes, gantry cranes, automatic handling systems, interlocks, discharge points, electrification, buckets and grabs also described and illustrated. Cleveland Tramrail Division, Cleveland Crane and Engineering Co.

**27. Ultrasonic Alarm System:** Folder describes and illustrates electronic anti-crime device that detects anyone attempting to enter, leave or move within the premises. The system is so sensitive it is said to be capable of detecting air turbulence caused by a fire. The alarm system uses inaudible, high frequency sound waves to provide a protection network for the entire premises against unauthorized intrusion. Diebold, Inc.

**28. Suction Cleaning:** Illustrated bulletin gives data on Floormobile for the suction cleaning of dust, dirt, lint, trash, paper, etc. from large floor areas. Case history material compares it with other cleaning methods. Handling Devices Co.

**29. Safety Signs:** Well illustrated folder in full color offers a variety of No Admittance, Keep Away, and Danger signs made in accordance with ASA specifications. Includes prices and full data. Stonehouse Signs, Inc.

**30. Safety Clothing:** Complete lines of asbestos and vinyl safety clothing are covered in this booklet. Described are asbestos gloves and mittens; chrome leather clothing, including aprons, welding jackets and gloves; and the line of "Pulmotek" vinyl clothing. Pulmosan Safety Equipment Corp.

**31. Safety Enamel:** Described and illustrated in 2-color booklet is an enamel for floors to provide a non-skid surface. Silicon particles suspended in a plastic binder provide the abrasive surface, and corrosion and chemical resistance is said to be high. Applications for concrete, metal and wood surfaces included. Kelley-Mahorney Co.

**32. "Breck Industrial Preparation":** Booklet discusses industrial dermatitis and describes hand cleaner, Breck PH7 protective cream, water resistant cream, and work cream for use after exposure to degreasing material. John H. Breck, Inc.

**33. Auto Seat Belts:** Literature describes the use of safety belts installed in automobiles and trucks to help reduce injuries and deaths, by strapping the occupant to the seat, which prevents persons from hurling forward against dash or windshield. Associated Suppliers Co.

**34. Safety Drill Tables:** Drill table here described combines a drill table, a vise, a set of parallels and a V-block in a single unit. Replaces table on your present press. Wide side opening solves problem of drilling pieces on end. Modern Machine Tool Co.

**35. First Aid Kits:** Wide variety of first aid kits for general and specific uses covered in this bulletin. Diagrams show how to use various medications and bandages. Pac-Kit Co.

## NON-TRAUMATIC CARRIER

The use of the NON-TRAUMATIC CARRIER allows you to transport the injured without disturbing the patient from the position in which they are found.

This is important for example, any movement to the patient with a broken back or neck can result in 3 things:

1. **Further complications**
2. **Paralysis**
3. **Death**

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MECHANICAL hearing protector

NOT AN EAR PLUG

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Printed below are two identical Reader Service postcards—the bottom one for your use; the top one for later readers of this issue. The numbers listed on each card are keyed to product advertised and the new safety equipment and trade publications described on pages 113 through 121. Just circle the items you want to know more about, and we will ask the manufacturer to send you full information without obligation. Both cards are perforated for easy removal, and no postage is required.

### New Safety Equipment

Products featured in this section have been carefully reviewed by Council engineers so as to bring you only what's new and reliable in the safety field. Only new safety and health products, or newsworthy improvements in existing equipment are eligible for listing.

### Trade Publications

Here's a wealth of helpful trade literature—catalogs, spec sheets, booklets, brochures—that will help you compare before you buy. Whether you are in the market now, or think you may be at a later date, you'll want these valuable references in your safety equipment data file.

### Products Advertised

As you read through this issue of the NEWS, you will find advertisements describing equipment that may help you solve some of your accident problems. Instead of making a "mental note," make sure you get full information by circling the corresponding page number on the Reader Service postcard. The letters L, R, T and B locate the ads on the page—left, right, top and bottom. IFC—inside front cover; IBC—inside back cover; BC—back cover.

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**The advertising policy of the NEWS requires that all equipment and products meet established codes and standards, have the approval of recognized testing agencies, or have proven their value through actual use in industry. Council engineers and technicians screen every advertisement to make sure that product description is accurate, and performance claims verified by reliable sources. It should not be construed, however, that products advertised are approved or endorsed by the National Safety Council.**

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CESCO

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